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THE WORLD TRADE CENTER

THE PORT OF NEW YORK AUTHORITY

SUB GRADE

PLUMBING

MINORU YAMASAKI & ASSOCIATES
MINORU YAMASAKI, ARCHITECT

EMERY ROTH & SONS
RICHARD ROTH, ARCHITECT

SEE 2 RISERS
NO. 3 RISERS

SKILLING HELLE CHRISTIANSEN & ROBERTSON
STRUCTURAL ENGINEERS
FORMERLY WORTHINGTON SKILLING HELLE & JACKSON

JAROS BAUM & BOLLES
MECHANICAL ENGINEERS

JOSEPH R. LORING & ASSOCIATES
ELECTRICAL ENGINEERS

THE PORT OF NEW YORK AUTHORITY
PAVING, UTILITIES, FOUNDATIONS

NORTH

KEY PLAN

TENANT STORAGE
EL. 242'-0"

TOWER 2
EL. 242
FOR PIPING WITHIN TOWER
SEE DWG. P-J-2

NORTH PROJECTION

MATCH LINE N 4738.00

NOTES
FOR GENERAL NOTES & SYMBOLS SEE DWG. P-X-1

SEE SUPERSEDING OF SUMP & DETECTORS DWG. P-X-10

TEMPORARY 6" DRY STANDPIPE - PROVIDE SITING BY HOSE VALVES 150' MINIMUM SPACE FLOOR.

				10	7-22-70	84-39	SAC
				9	5-20-70	41-53	C
				8	5-20-70	26-44	SAC
				7	12-19-69	54-5	SAC
				6	7-17-	36-13	C
				5	6-13-69	86-15	C
				4	3-4-69	86-10	SAC
12	5-8-72	16-181	RB	3		36	C
11	10-28-70			2			
10	6-27-67	86-182	MK	1			
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

APPROVED
CHIEF PLANNING DIVISION
DATE

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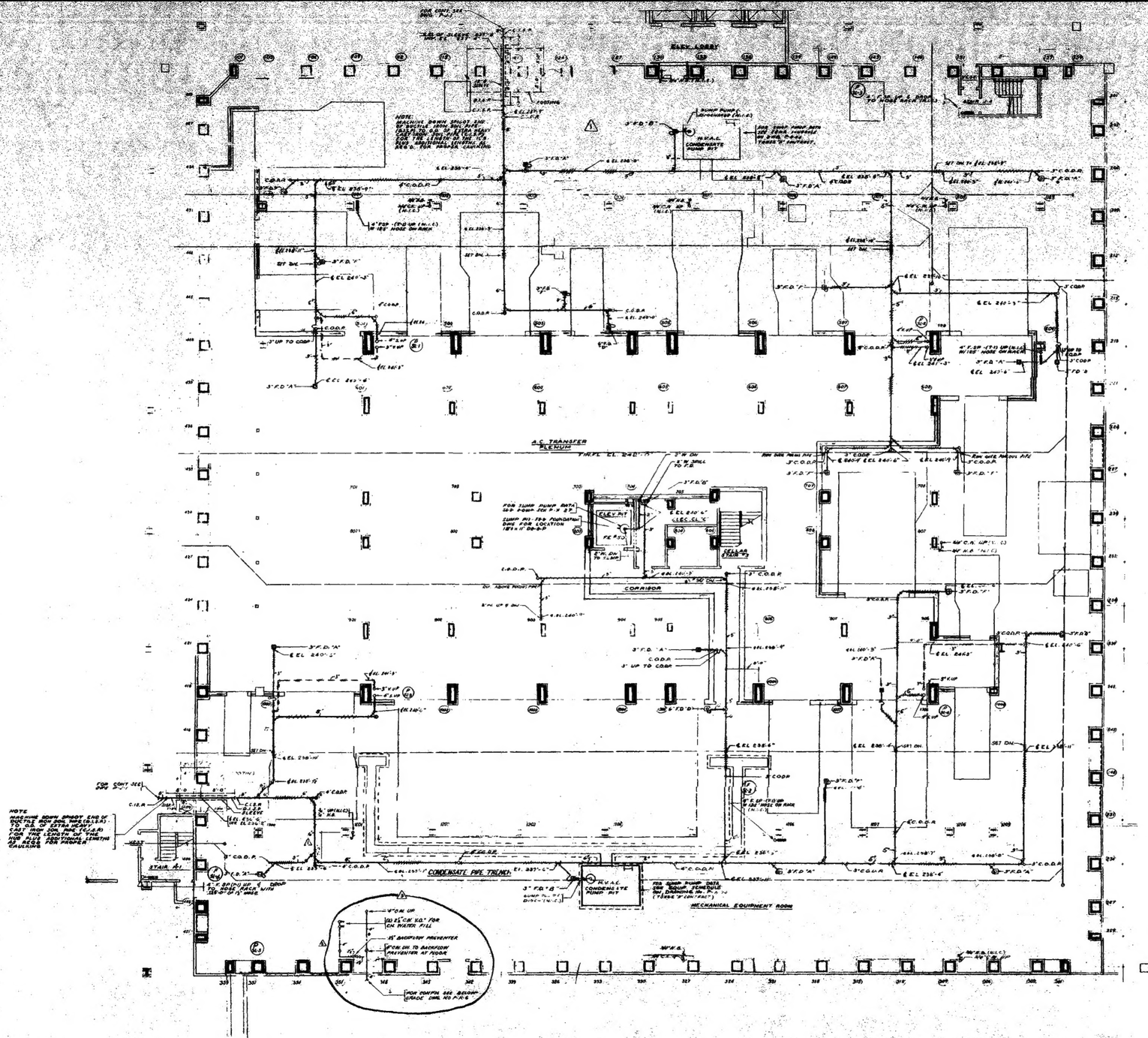
JAROS, BAUM & BOLLES — MECHANICAL ENGINEERS
JOSEPH R. LORING & ASSOCIATES — ELECTRICAL ENGINEERS
THE PORT OF NEW YORK AUTHORITY — PAVING, UTILITIES, FOUNDATIONS

TITLE: SUB-GRADE PLAN-ZONE 'J'
SUB-LEVEL 5 (EL 242)

DRAWN		CHECKED	P.J.S.
SCALE	1/8" = 1'-0"	DATE	5-16-69
PROJECT NUMBER		SURVEY	
DRAWING NUMBER	P-J-1		



CONTRACT BID DRAWING date

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THE PORT OF NEW YORK AUTHORITY — PAVING, UTILITIES, FOUNDATIONS

TITLE: SUB-GRADE PLAN-ZONE J
SUB-LEVEL 5 - EL 24.2
TOWER A

DRAWN	G.C.	CHECKED	F.A.S.
SCALE	1/8" = 1'-0"	DATE	5-15
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-J-2		

MATCH LINE - N 4788.00
FOR CONTINUATION SEE DWG. P-J-1

TOWER 'A'
EL. 242
FOR PIPING WITHIN TOWER
SEE DWG. P-J-2

VIBR. REPAIR MAINTENANCE RM.

STEAM METER ROOM
EL. 242'-0"

ABSOLUTE OIL SEPERATOR
6" PIPE SIZE 185 GPM
STEEL EXTENSIONS AS REQ'D
SCORIATED COVER

REF. FAN ROOM
EL. 242'-0"

TENANT STORAGE
EL. 242'-0"

TOWER 'B'
EL. 242
FOR PIPING WITHIN TOWER
SEE DWG. P-K-4

STORAGE AREA

UNASSIGNED AREA #5

FAN ROOM A

UNASSIGNED AREA #6

AREAS BETWEEN TANKS

KEY PLAN

SECTION A-A

SECTION B-B

NOTES:
1. FOR GENERAL NOTES & SYMBOLS SEE DWG. P-K-27
2. TEMPORARY DRY STANDPIPE - PROVIDE (2) TWO 2½" HOSE VALVES 6'-0" MIN. ABOVE FLOOR
3. FOR TYPICAL PIPE SUPPORTING DETAILS SEE DWG. P-J-19
4. FOR SUMP PUMP LOCATION OF SECTION THRU TOWER SEE DWG. P-J-1 & P-J-2
5. FOR PUMPED DISCHARGE WATER PIPING LOCATIONS SEE DWG. P-J-1 & P-J-2 FOR ACTUAL LOCATIONS OF PIPING WITHIN STRUCTURE SEE FOUNDATION DWGS BY OTHERS
6. ALL PIPING EXPOSED TO THE WEATHER SHALL BE EPOXY COATED UP TO THE CONN. WITH G.L.D.R.

NO.	DATE	REVISIONS	BY
10	6-15-10	56-85	DT
9	5-20-70	54-67	EJG
8	3-10-70	56-33	J.L.
7	1-19-70	54-78	EJG
6	12-10-69	56-76	EJG
5	6-15-63	56-23	J.G.
4	6-3-66	56-75	J.C.
3	5-19-66	56-19	J.C.
2	7-1-65	56-6	J.C.
1	7-17-62	56-2	J.C.

NO.	DATE	REVISIONS	BY

APPROVED
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THE PORT OF NEW YORK AUTHORITY
PAVING, UTILITIES, FOUNDATIONS

TITLE: SUB-GRADE PLAN-ZONE 'K'
SUB-LEVEL 5-EL 242

DRAWN	G.C.	CHECKED	F.A.S.
SCALE	1/16" = 1'-0"	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-K-3		

0 10 20 30 40
Scale feet

NORTH

RESERVOIR LEVEL

MECHANICAL EQUIPMENT ROOM

CONC. PAD

TRANSFER PLENUM

UNASSIGNED SPACE

UNOCCUPIED SPACE

CELLAR

ELEV PIT

STAIR K-1

VEST

NOTE: 2" DIA. PIPE DOWN RAMP END OF DUCTILE IRON SAN. PIPE (U.U.D.) TO BE EXTRA HEAVY (SEE SPEC. SECTION 15.1.2) AND PLUS ADDITIONAL CLEANING & PAINTING UNDER CAULKING.

NOTES:
1. FOR GENERAL NOTES & SYMBOLS SEE DRAWING No. P-K-1.
2. FIRE STANDPIPE SHOWN ON THIS DWG. IS UNDER TOWER 'B' PLUMBING CONTRACT.
3. ALL FLOOR DRAINS, WASTE, SOIL AND VENT PIPING INDICATED ON THIS DRAWING AS UNDER THIS CONTRACT, INCL. BE UNDER THIS CONTRACT, AND TERMINATE WITH A NUB CONNECTION DIRECTLY ABOVE THE 242' SLAB. ALL OTHER PIPING IS UNDER ANOTHER CONTRACT (TOWER 'B')
4. THE SANITARY FLOOR & PIPING TO & FROM SUMP ARE APPROXIMATE. FOR ACTUAL LOCATIONS OF PIPING WITHIN TRENCH SEE FOUNDATION DWGS BY OTHERS

1/4"=1'-0" 3 0 3 10 15 20

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REVISIONS

APPROVED — CHIEF, PLANNING DIVISION — DATE

TITLE: SUB-GRADE PLAN-ZONE 'K' SUB-LEVEL 5 - FL. 242' TOWER 'B'

DRAWN	G.C.	CHECKED	F.A.S.
SCALE	1/8"=1'	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-K-4		

UPPER PART OF UNOCCUPIED AREA

SUBSTATION No. 3 EL. 250'-0"

TENANT STORAGE EL. 253'-0

TENANT STORAGE EL. 253'-0

TOWER "A" EL. 253 FOR PIPING WITHIN TOWER SEE DWG. P-A-3

STAIR J-1

STAIR J-2

STAIR J-4

SHAFT "4"

SHAFT "5"

SHAFT "6"

ELEVATOR LOBBY

SPRINKLER VALVE ROOM

SPRINKLER VALVE ROOM

UPPER PART OF EMERGENCY GENERATOR RM. PE

NORTH PROJECTION

PLATFORM A

PLATFORM B

PLATFORM C

TRACK 1

TRACK 2

TRACK 3

MATCH LINE N 4735
FOR CONTINUATION SEE DWG P-K-6

NOTE
1. FOR GENERAL NOTES & SYMBOLS SEE DWG P-K-7
2. TEMPORARY 6" DRY STANDPIPE - PROVIDE (2) 2½" HOSE VALVES 5'-0" MINIMUM ABOVE FLOOR.
3. FOR PIPING TO TOILETS ON PLATFORM SEE DETAIL SHEET DWG. NO. P-K-18.
4. FOR ACTUAL LOCATION OF F.H. CABINETS & BOX ROUNDS ON PLATFORM SEE ARCHITECTURAL DRAWINGS.
5. INSTALL PIPING WHERE REMOVAL OF EXISTING PATH TUBES.

NO.	DATE	REVISIONS	NO.	DATE	REVISIONS	BY
			10	5-20-70	SG-60	MG
			9	3-20-70	SG-67	SJC
			8	3-10-70	SG-66	SJC
			7	12-23-69	24-16	EJ
			6	11-19-69	-16	SJC
			5	11-19-69	SG-5	SJC
14	5-18-7206 191	RB	4	6-3-69	SG-15	JC
13	9-27-71	SG-182	MA	3	3-19-68	SG-10
12	9-1-71	SG-161	SJC	2	1-21-69	SG-6
11	4-27-71	SG-110	GP	1	7-9-68	SG-2

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ELECTRICAL ENGINEERS

THE PORT OF NEW YORK AUTHORITY
PAVING, UTILITIES, FOUNDATIONS

TITLE: SUB-GRADE PLAN-ZONE 'J' SUB-LEVEL 4-EL 253'

DRAWN	J.C.	CHECKED	E.A.S.
SCALE	1/16" = 1'-0"	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P.J-5		

MATCH LINE
FOR CONTINUATION SEE DWG. P-Y-5

TOWER A
FOR PIPING WITHIN TOWER SEE DWG. P-A-3

H.V.A.C. PERMAINTAINENCE ROOM

UPPER PART OF GENERATOR ROOM

REFRIGERATION ROOM-OPERATING LEVEL

UPPER PART OF REFRIGERATION EXHAUST PLENUM AT EL. 242'-0"

UPPER PART OF STEAM METER ROOM EL. 242'-0"

UPPER PART OF STORAGE EL. 242'-0"

LOADING PLATFORM EL. 250'-0"

TOWER B
EL. 253
FOR PIPING WITHIN TOWER SEE DWG. P-B-3

WORK PLATFORM EL. 249'-0"

TENANT STORAGE EL. 253'-10"

SOUTH PROJECTION

TRANSFORMER ROOM

UPPER PART OF AREA BETWEEN TRACKS

UPPER PART OF UNASSIGNED AREA

PLATFORM 'A' EL. 253'-3"

PLATFORM 'C' EL. 250'-0"

PLATFORM 'B' EL. 253'-0"

STAIR K-1 · STAIR K-2 · STAIR K-3 · STAIR K-4 · STAIR K-5 · STAIR K-6 · STAIR K-7

ELEVATOR K-1 · ELEVATOR K-2

SHAFT #6 · SHAFT #7 · SHAFT #8 · SHAFT #9 · SHAFT #10

FAN ROOM 1

NORTH

DETAIL OF VALVE OUTLETS FOR H.V.A.C.
NO SCALE

DETAIL OF FILL CONNECTIONS
NO SCALE

NOTES:
1. FOR GENERAL NOTES & SYMBOLS SEE DWG P-X-21
2. TEMPORARY 6" DRY STANDPIPE. PROVIDE #1 2½" HOSE VALVES. 3'-0" MIN. ABOVE FLOOR
3. FOR PIPING TO TOILETS ON PLATFORM SEE DETAIL SHEET DWG. No. P-X-18.
4. FOR ACTUAL LOCATION OF F.H. CABINETS & SIAMESE HYDRANTS ON PLATFORM SEE ARCHITECTURAL DRAWINGS.
5. 3" PRV IN REFRIG'N. PLANT ROOM AT DEFAULT PRESSURE OF 75 PSI.
6. ALL [illegible] SHALL BE SPRAY COATED

NO.	DATE	BUL. NO.	BY
10	1-27-71	SK-118	SK
9	1-21-70	C-99	JH
8	1-17-70	DC-81	JH
7	1-30-69	SK-64	JH
6	1-21-69	C-33	JH
5	1-24-68	SK-47	JH
4	12-19-67	SK-16	JH
3	9-11-67	SK-10	JH
2	8-3-67	SK-4	JH
1	6-15-67	SK-2	JH

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PAVING, UTILITIES, FOUNDATIONS

TITLE: SUB-GRADE PLAN-ZONE 'K' SUB-LEVEL 4-EL 250'-253'

DRAWN	J.C.	CHECKED	F.A.S.
SCALE	1/16" = 1'-0"	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-K-6		

PARKING AREA "I"

PARKING AREA
EL. 264'-0"

TOWER "A"
EL. 264
FOR PIPING WITHIN TOWER
SEE DWG. P-A-5

TENANT STORAGE
EL. 264'-0"

FAN ROOM
EL. 264'-0"

ELEVATOR LOBBY

A.C. PLENUM

PATH MEZZANINE
EL. 284'-0"

AUXILIARY SERVICES

RAMP U
UP TO EL. 274'-0"

EL. 264'-0"

NORTH PROJECTION

ESCALATOR #1

ESCALATOR #2

STAIR #1

STAIR #2

STAIR #3

STAIR #4

STAIR #5

SHAFT 1

SHAFT 2

SHAFT 3

SHAFT 4

SHAFT 5

SHAFT 6

KEY PLAN

NORTH

MATCH LINE N 473500
FOR CONTINUATION SEE DWG P-K-8

NOTE
1. FOR GENERAL NOTES & SYMBOLS SEE DWG P-K-1
2. TEMPORARY 6" DRY STANDPIPE - PROVIDE (2) TWO 2½" HOSE VALVES 5'-0" MINIMUM ABOVE FLOOR.

3. SUBSTITUTE FIRE HOSE CABINETS, AS MANUFACTURED BY J. L. INDUSTRIES MODEL "ACADEMY" 20G.X" WITH STAINLESS STEEL FRONTS IN PUBLIC AREAS AT PATH PLATFORM AND MEZZANINE LEVELS IN LIEU OF SPECIFIED SIZE HOSE CABINETS IN THESE AREAS

				10	3-20-70	SG-33	S.G.
				9	1-20-70	SG-66	S.G.
				8	12-19-69	SG-16	J.C.
				7	12-19-69	SG-16	S.G.
				6	11-19-69	SG-5	S.G.
				5	6-3-69	SG-15	J.C.
				4	5-9-69	SG-10	B.S.
13	11-7-74	SG-171	S.G.	3	1-27-69	SG-6	F.U.
12	7-12-71	SG-161	S.G.	2	9-1-68	SG-5	J.E.
11	5-10-10	SG-69	W.S.	1	7-15-68	SG-1	J.C.
NO.	DATE	TRANS. ORDER NO.	BY	NO.	DATE	TRANS. ORDER NO.	BY
REVISIONS				REVISIONS			

APPROVED

CHIEF, PLANNING DIVISION

DATE

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WORTHINGTON, SKILLING, HELLE & JACKSON STRUCTURAL ENGINEERS	JAROS, BAUM & BOLLES MECHANICAL ENGINEERS
JOSEPH R. LORING & ASSOCIATES ELECTRICAL ENGINEERS	THE PORT OF NEW YORK AUTHORITY PAYING, UTILITIES, FOUNDATIONS

TITLE: SUB-GRADE PLAN-ZONE "J"
SUB-LEVEL 3-EL 264

DRAWN	J.C.	CHECKED	F.A.S.
SCALE	1/16" = 1'-0"	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-J-57		

MATCH LINE - N 4780.00
FOR CONTINUATION SEE DWG. P-J-7

TOWER 'A'
FOR PIPING WITHIN TOWER EXCEPT AS NOTED SEE DWG. P-A-5

OPERATING LEVEL OF REFRIGERATOR ROOM
EL. 265'-0"

SWITCHGEAR ROOM
EL. 264'-0"

EAST GARAGE EXHAUST PLENUM

TOILETS LOCKERS
EL. 268'-6"

CONTROL ROOM
EL. 268'-6"

TOWER 'B'
EL. 264
FOR PIPING WITHIN TOWER EXCEPT AS NOTED SEE DWG. P-B-5

PARKING AREA
EL. 264'-0"

TENANT STORAGE
EL. 264'-0"

SOUTH PROJECTION

EL. 264'-0"

KEY PLAN

NOTES:
1. FOR GENERAL NOTES & SYMBOLS SEE DWG. P-X-21
2. TEMPORARY 6" DRY STANDPIPE: PROVIDE 2½" TEE & 2½" HOSE VALVES 2'-0" MIN. ABOVE FLOOR
3. INSTALL PIPING AFTER REMOVAL OF EXISTING PATH TUBES.
4. FOR PIPING TO TOILETS ON PLATFORM SEE DETAIL SHEET - DRAWING No. P-X-18.
5. PIPING FROM THE STEAMLEG SHALL BE EPOXY COATED.

NO.	DATE	DWG. NO.	BY
12	11-7-78	56-194	JJ
11	8-10-78	56-195	KB

REVISIONS

NO.	DATE	DWG. NO.	BY
10	2-3-71	56-169	BV
9	10-6-71	56-173	JJ
8	1-27-71	56-148	AAG
7	7-27-70	56-138	RJC
6	3-17-70	56-51	JJ
5	12-30-69	56-33	FJS
4	10-19-69	56-160	RJC
3	5-21-69	56-10	BV
2	3-10-69	56-5	GG
1	9-1-68	56-2	JJ

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JOSEPH R. LORING & ASSOCIATES ELECTRICAL ENGINEERS	THE PORT OF NEW YORK AUTHORITY PAVING, STREETS, FOUNDATIONS

TITLE: SUB-GRADE PLAN-ZONE 'K'
SUB-LEVEL 3 EL 264

DRAWN	J.C.	CHECKED	F.A.S.
SCALE	1/16" = 1'-0"	DATE	5-15-68
PROJECT		SHEET	OF
DRAWING NUMBER	P-K-8		

PARKING AREA
EL. 274'-0"

TOWER "A"
EL. 274
FOR PIPING WITHIN TOWER
SEE DWG. P-A-6

TENANT STORAGE
EL. 274'-0"

PRIMARY DISTRIBUTION ROOM
EL. 274'-0"

STORAGE
EL. 274'-0"

RAMP 'K'

RAMP 'L'

RAMP 'M'

UPPER LEVEL OF PATH MEZZANINE
EL. 284'-0"

AUX. SERVICES

KEY PLAN

NORTH PROJECTION

MATCH LINE N 7800
FOR CONTINUATION
SEE DWG P-K-10

NOTES:
1. FOR GENERAL NOTES & SYMBOLS SEE DWG. P-A-57
2. TEMPORARILY 6" DRY STANDPIPE - PROVIDE BUTTING 6" HOSE VALVES 5'0" ABOVE FLOOR.
3. CONTRACTOR TO PROVIDE & INSTALL COPPER PAN (FOR SIZE & LOCATION SEE ELECT. DRAWINGS) PIPE P BASIZE TO ELEV 274 SEAB.

NO.	DATE	DESCRIPTION	BY
10	5-11-70	84-33	SJC
9	5-19-70	85-66	AAC
8	12-19-69	85-16	J.T.
7	12-19-69	84-16	SJC
6	12-19-69	85-5	SJC
5	12-3-69	84-12	J.C.
4	5-19-69	84-10	SJC
3	1-7-69	84-10	F.U.
2	9-20-68	84-6	J.C.
1	7-10-68		T.G.

REVISIONS

NO.	DATE	DESCRIPTION	BY
13	11-7-74	84-23	F.U.
12	1-16-73	84-266	RB
11	9-21-71	84-164	SJC

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PAVING, UTILITIES, FOUNDATIONS

TITLE: SUB-GRADE PLAN-ZONE 'J'
SUB-LEVEL 2-EL [274]

DRAWN	W.F.M.	CHECKED	F.A.S.
SCALE	1/16" = 1'-0"	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-J-9		

MATCH LINE — N 4735.00
FOR CONTINUATION SEE DWG. P-J-9

TOWER "A"
FOR PIPING WITHIN TOWER SEE DWG. P-A-

STAIR K-1

UPPER LEVEL OF REFRIGERATION ROOM
EL. 257'-0"

UPPER PART OF TOILETS & LOCKERS
EL. 268'-0"

UPPER PART OF CONTROL ROOM
EL. 269'-6"

VISITORS GALLERY

UPPER PART OF EL. 284' LEVEL

UPPER LEVEL OF SWITCHGEAR ROOM
EL. 264'-0"

TENANT STORAGE
EL. 274'-0"

RAMP "J" UP TO EL. 284'-0"

PARKING AREA
EL. 274'-0"

TOWER "B"
EL. 274
FOR PIPING WITHIN TOWER
SEE DWG. P-B-6

STAIR K-5

STAIR K-3

STAIR K-7

RAMP "J" UP TO EL. 274'-0"

SOUTH PROJECTION

KEY PLAN

NOTES:
1. FOR GENERAL NOTES & SYMBOLS SEE DWG. P-X-2?
2. TEMPORARY DRY STANDPIPE: PROVIDE (2) TWO 2½" HOSE VALVES, 3'-0" ABOVE FLOOR.

NO.	DATE	INIT.
12	11-18-76	SG/RS
11	12-3-71	SG/RS
10	10-6-71	SG/TJ
9	1-27-71	SG-MB
8	7-22-70	SG-99
7	5-13-70	SG-51
6	2-10-70	SG-30
5	5-26-70	SG-33
4	12-19-69	SG-16
3	3-11-69	SG-12
2	1-24-69	SG-6
1	9-1969	SG-2

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THE PORT OF NEW YORK AUTHORITY
PAVING, UTILITIES, FOUNDATIONS

TITLE: SUBGRADE PLAN-ZONE 'K'
SUB-LEVEL 2-EL. 274

DRAWN	W.F.M.	CHECKED	F.A.S.
SCALE	1/16"=1'-0"	DATE	5-15-68
PROJECT		WEIGHT	

DRAWING NUMBER: P-K-10

1/16"=1'-0" scale
0 10 20 30 40 feet

PARKING AREA
EL. 284'-0"

TOWER "A"
EL. 284
FOR PIPING WITHIN TOWER
SEE DWG. P-A-7

TEL ROOM
EL. 284'-0"

STAIR J-1

STAIR J-2

STAIR J-3

STAIR J-4

SHAFT 1

SHAFT 2

SHAFT 3

SHAFT 4

SHAFT 5

RAMP C

RAMP D

RAMP E

RAMP F

PARKING AREA

PATH DOME

UPPER LEVEL OF ELECTRICAL ROOMS EL. 294'-8"

TOWER A

TOWER B

KEY PLAN

NORTH PROJECTION

FOR CONTINUATION SEE DWG P-K-12

NOTE
1 FOR GENERAL NOTES & SYMBOLS SEE D.W.G. P-K-1
2 FOR LOCATIONS OF PENETRATIONS THRU EXT. WALL SEE P-J-1 & P-K-2, 3, & 5
3 TEMPORARY C. DRY STANDPIPE - PROVIDE (3) 2½" DIA. HOSE VALVES 3'-0" MINIMUM ABOVE FLOOR.
4 INSTALL PIPING AFTER REMOVAL OF EXISTING PATH TUBES

NO.	DATE	REVISION	BY
10	1-15-73	SK-236	RB
9	7-12-71	SK-161	JAC
8	3-19-70	SK-66	DAC
7	12-19-69	SK-16	RAC
6	12-19-69	SK-5	JAC
5	12-19-69	SK-36	JC
4	9-19-68	SK-10	BV
3	7-20-68	SK-6	K.M.
2	9-27-67	SK-2	A.F.
1	7-10-67		J.L.

APPROVED
CHIEF, PLANNING DIVISION
DATE

THE WORLD TRADE CENTER
THE PORT OF NEW YORK AUTHORITY

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MINORU YAMASAKI, ARCHITECT

EMERY ROTH & SONS
RICHARD ROTH, ARCHITECT

WORTHINGTON, SKILLING, HELLE & JACKSON
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TITLE: SUB-GRADE PLAN-ZONE 1"
SUB-LEVEL 1-EL 279-284

DRAWN	J.E.	CHECKED	F.A.S.
SCALE	1/16" = 1'-0"	DATE	5-71
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-J-11		

TOWER "A"
EL. 284
FOR PIPING WITHIN TOWER
SEE DWG. P-A-7

SKETCH LINE N 470000
FOR CONTINUATION
SEE DWG. P-J-11

RAMP 'B'

RAMP 'A'

PARKING AREA
EL. 284'-0"

RAMP 'N'

SOUTH PROJECTION

Note:
FOR PIPING IN THIS AREA & AREAS ABOVE & BELOW
SEE DWG. No. P-1 "CAR POOL PARKING SUB LEVEL-1"

DISCONNECT CIRCLED PORTION OF 4"F.P.SPR. PIPE TO INSTALL SWEAT BEND. REMOVAL THRU WALL OPENING IN SWEAT HEAD.

SET ON UNDER SIDE OF SLAB-HEAD

SET ON TIGHT UNDER S.P.N. PIPE

SHAFT 'B'

SHAFT 'C'

SHAFT 'D'

ELEVATOR

ESCALATOR

STAIR K-6

STAIR K-7

STAIR K-8

RAMP 'L'

RAMP 'M'

TOWER "B"
EL. 284
FOR PIPING WITHIN TOWER
SEE DWG. P-B-7

STORAGE
EL. 284'-0"

TENANT STORAGE
EL. 284'-0"

PARKING AREA
EL. 284'-0"

RAMP 'K'

RAMP 'L'

RAMP 'M'

TOWER EXHAUST PLENUM

RAMP ABOVE

EL. 279'-5"

EL. 284'-0"

EL. 284'-5"

EL. 285'-0"

EL. 7'-8"

EL. 8'-8"

EL. 8'-0"

EL. 8'-5"

EL. 8'-6"

EL. 8'-7"

EL. 8'-8"

EL. 8'-9"

EL. 8'-10"

EL. 8'-11"

EL. 9'-0"

EL. 9'-1"

EL. 9'-2"

EL. 9'-3"

EL. 9'-4"

EL. 9'-5"

EL. 9'-6"

EL. 9'-7"

EL. 9'-8"

EL. 9'-9"

EL. 9'-10"

EL. 9'-11"

EL. 10'-0"

EL. 10'-1"

EL. 10'-2"

EL. 10'-3"

EL. 10'-4"

EL. 10'-5"

EL. 10'-6"

EL. 10'-7"

EL. 10'-8"

EL. 10'-9"

EL. 10'-10"

EL. 10'-11"

EL. 11'-0"

EL. 11'-1"

EL. 11'-2"

EL. 11'-3"

EL. 11'-4"

EL.

MATCH LINE N 47780.00
FOR CONTINUATION
SEE DWG. P-J-11

TOWER "A"
EL. 284
FOR PIPING WITHIN TOWER
SEE DWG. P-A-7

RAMP "B"

RAMP "A"

PARKING AREA
EL. 284'-0"

PARKING AREA #2

RAMP ABOVE

TOWER "B"
EL. 284
FOR PIPING WITHIN TOWER
SEE DWG. P-B-7

STORAGE
EL. 284'-0"

RAMP "L"

TENANT STORAGE
EL. 284'-0"

PARKING AREA
EL. 284'-0"

SOUTH PROJECTION

NOTE: ALL CROSS HATCHED EXISTING PIPING TO BE DELETED.

NOTE: THIS DWG. SUPERSEDES DWG. P-K-12

BULLETINS NOT NUMBERED ARE IN PROGRESS

NO.	DATE	REVISIONS	BY
21	4-19-74	46-290	J.E.

NO.	DATE	REVISIONS	BY
27	9-22-75	54-?	J.E.

APPROVED
CHIEF, PLANNING DIVISION
DATE

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MECHANICAL ENGINEERS

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ELECTRICAL ENGINEERS

THE PORT OF NEW YORK AUTHORITY
PAVING, UTILITIES, FOUNDATIONS

TITLE: SUB-GRADE PLAN-ZONE "K"
SUB-LEVEL 1-EL 279-3'284

DRAWN	J.E.	CHECKED	F.A.S.
SCALE	1/8" = 1'-0"	DATE	5-15-68
PROJECT NUMBER	W.T.C. 5.31.00	SHEET NO.	
DRAWING NUMBER	P-K-12-II		

UNITED STATES CUSTOMS BLDG AREA

TOWER "A"
EL. 294
FOR PIPING WITHIN TOWER
SEE DWG. P-A-8

TRUCK DOCK & LOADING AREA
EL 280'-0"

LOADING DOCK

UTILITY RACK
FOR PIPING OF UTILITY RACK SEE DWG P-K-15

TRUCK DOCK & LOADING AREA
EL. 280'-0"

LOADING DOCK
EL. 294'-0"

UTILITY RACK
FOR PIPING OF UTILITY RACK SEE DWG P-K-15

SECTIONALIZING VALVES

RAMP UP

KEY PLAN

NORTH

TEMPORARY 6" DRY STANDPIPE - PROVIDE (2) THD 2½" HOSE VALVES 5'-0" MINIMUM ABOVE FLOOR ELEV. 294'-0" EXTEND UP TO TEMPORARY SIAMESE. THE LOCATION TO BE DETERMINED.

TEMPORARY 6" DRY STANDPIPE - PROVIDE (2) THD 2½" HOSE VALVES 5'-0" MINIMUM ABOVE FLOOR ELEV. 294'-0" EXTEND UP TO TEMPORARY SIAMESE. THE LOCATION TO BE DETERMINED.

TO SIAMESE UNDER ANOTHER CONTRACT

STAIR U-1

STAIR U-2

STAIR U-3

STAIR U-4

STAIR U-5

ELEV. LOBBY

TOWER A PUMP ROOM

NORTH METER ROOM

STEAM METER RM

SEE NOTE #2

SEE NOTE #3

SEE NOTE #4

SEE NOTE ABOVE

FOR CONTINUATION SEE DWG P-K-14

MATCH LINE N 47.88

DETAIL NO. 1
No Scale

10" FLG'D. SLL.

10" BUTTERFLY VALVE

10" SPOOL PIECE FOR FUTURE 10" CHECK VALVE

10"

EL. +294'-0

EXIST. GALV. ST'L. ELL.

DUCTILE IRON

NOTES:
1. FOR GENERAL NOTES AND SYMBOLS SEE DRAWING NO. P-K-23
2. FOR CONT OF PIPING AT UTILITY RACK SEE ½" SCALE PLAN OF UTILITY RACK DWG P-K-15
3. ALL LINES INDICATED GOING UP SHALL TERMINATE THROUGH THE 3½" SLAB W/ APPROPRIATE FITTINGS. (FOR CONTINUATION UNDER ANOTHER CONTRACT UNLESS OTHERWISE NOTED
4. FOR ACTUAL LOCATIONS OF ALL FLOOR DRAINS SEE U.S. CUSTOM BLDG. CONTRACT DWGS. (P-K-1-3-4-5).
5. DRAINAGE PIPING TO BE SCHED. 40 GALVANIZED STEEL
6. THE 6" SPRINKLER MAIN SHOWN ON THIS PLAN WILL BE INSTALLED UNDER ANOTHER CONTRACT AND IS SHOWN ON THIS PLAN FOR INFORMATION AT THE TIME A SHOP DRAWING CORRECTIVE MAIN SIZE THESE SHOWN SHALL BE CONNECTED. FOR FURTHER COORDINATION SEE SPRINKLER DWGS.

ALL BULL NOT DATED ARE IN THE PROCESS OF COMPEATION.

NO.	DATE	WKG. NO.	BY
16	9-22-72	SK 282	RB
15	2-18-72	SK-201	JA
14	11-13-71	SK-185	RB
13	12-2-71	SK-196	JA
12	12-2-71	SK-163	SJC
11	9-22-71	SK-162	SJC

REVISIONS

NO.	DATE	WKG. NO.	BY
10	7-12-71	ES-161	DC
9	3-20-70	SK-66	SJC
8	12-15-69	SK-36	TF
7	10-16-69	SK-16	SJC
6	10-16-69	SK-5	SJC
5	10-10-69	SK-28	JC
4	3-18-69	SK-3	JC
3	1- -/	SK-6	KU
2	11-17-68	SK-	JE
1	7- -/	SK-	JC

REVISIONS

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CHIEF, PLANNING DIVISION

DATE

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THE PORT OF NEW YORK AUTHORITY
PAVING, UTILITIES, FOUNDATIONS

TITLE: SUB GRADE PLAN ZONE "J" SUB-LEVEL - EL. 290-294

DRAWN	P.J.T.	CHECKED	F.A.S.
SCALE	1/16" = 1'-0"	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-J-13		

1/16"=1'0" Scale

TOWER A

TOWER "B"
EL. 294
FOR PIPING WITHIN TOWER
SEE DWG. P-8-8

PARKING AREA

UNASSIGNED AREA No. 9

RAMP "M"
TO EL. 304'-3"

RAMP "N"

RAMP "H"

RAMP "J"

RAMP "K"

KEY PLAN

PLAN ELEV. 310'-0"
SCALE 1/8"=1'-0"

PLAN ELEV. 294'-0"
SCALE 1/8"=1'-0"

NOTE:
1. FOR GENERAL NOTES & SYMBOLS SEE DWG. P-2-1.
2. FOR CONT. OF PIPING AT UTILITY RACK SEE 8" SCALE PLAN OF UTILITY RACK, DWG P-2-15

6. THE 6" SPRINKLER MAIN INDICATED ON THIS PLAN WILL BE INSTALLED UNDER ANOTHER CONTRACT AND IS SHOWN SOLELY AS AN INDICATION FOR THE FIRE & SPRINKLER LINES CONNECTIONS ONLY WITH THEIR SIMILAR CONNECTIONS. FOR FURTHER COORDINATION SEE SPRINKLER DWGS.

8. DRAINAGE PIPING TO BE SCHED. 40 GALVANIZED STEEL

9. FLASH STAIR DRAINS SHALL BE CORAH INSULINE "ECON-RITE" "V" MOD. CAST IRON BODY, WITH SECURING POOL, BRACKETS, AND CLAMPING COLLAR; BOTTOM OUTLET, WHERE CAST, MODIFIED WITH TYPE "V" EXTENSION AND "V" OUTLET, TYPE "N" BRONZE ADJUSTABLE TOP, WITH REMOVABLE ZERO FLOW CRITE. THIS CONTRACTOR SHALL PROVIDE STYROFOAM COLLAR, OR OTHER SMOKE BARRIER, AS REQUIRED. AT TIME OF INSTALLATION OF THE SYPHON, THIS CONTRACTOR SHALL REMOVE THE STYRO FOAM COLLAR AND THE TYPE "N" TOP AND REPLACE WITH A VARIATIONAL TYPE "V" EXTENSION AND A 5" DIA. TYPE "M" NICKEL BRONZE ADJUSTABLE TOP WITH HEAVY DUTY GRATE, SECURED WITH SPANNER TYPE TAMPER PROOF SCREWS.

D5	8-24-76	SG-1090	CC	2	3	7-22-76	SG-39	S-46			
D4	1-15-76	SG-280	SJC	1	2	5-13-76	SG-21	J-1			
D3	7-18-75	SG-208	RB	1	1	3-10-70	S-1.5	S-30			
D2	5-18-75	SG-208	RB	1	1	12-19-69	29-36	J-7			
D1	5-9-75	SG-1044	RB	1	1	10-8-69	29-25	J-1			
C0	2-18-72	36-207	RB	0	1	7-22-76	SG-39	S-46			
B9	2-18-71	36-191	SJC	9	5	5-13-76	36-21	J-1			
B8	1-18-71	36-176	SJC	8	3	3-10-70	S-1.5	S-30			
B7	1-18-71	36-145	RB	7	2	12-19-69	29-36	J-7			
B6	12-17-70	36-119	SJC	6	1	10-8-69	29-25	J-1			
B5	10-16-70	36-103	SJC	5	1	10-8-69	36-18	J-6			
B4	8-17-70	S-0-181	LA	4	1	7-22-70	S-1.5	J-1			
B3	7-17-70	36-103	SJC	3	1	6-8-70	36-18	J			
B2	6-17-70	36-188	RB	2	1	5-13-70	S-1.5	J-1			
B1	10-15-70	36-114	SJC	1	1	7-14-69		C-			
NO.	DATE	DESCRIPTION	BY	NO.	NO.	DATE	DESCRIPTION	BY	NO.	NO.	

REVISIONS | REVISIONS

APPROVED
SHOP, PLANNING DIVISION
DATE

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THE PORT OF NEW YORK AUTHORITY
PAVING, UTILITIES, FOUNDATIONS

SUB-GRADE PLAN-ZONE "K"
SUB-LEVEL EL 294

DRAWN	P.V.T.	TRACED	F.A.S.
SCALE	1/8" = 1'-0"	DATE	5-15-68
FILE NO.		DATE	
CONTRACT NO.			

P-K-14

TOWER 'A'

RAMP 'B'

RAMP 'A'

RAMP 'N'

RAMP 'H'

TOWER 'B'
EL. 294
FOR PIPING WITHIN TOWER SEE DWG. P-B-B

PARKING AREA
EL. 290'-0"

TRUCK CIRCULATION AREA

LOADING PLATFORM'S

PARKING AREA

UNASSIGNED AREA 2
W/ TROUGH DRAIN PIPING KEEP AS HIGH AS POSSIBLE ABOVE DUCTS

UNASSIGNED AREA 3

VEST. 2

ESCALATOR

MECHANICAL EQUIPMENT RM.

LOCKSMITH SHOP

GUARD RM.

ELECTRICAL ROOM

TELEPHONE CLOSET

SECURITY AREA

ELEVATOR MACHINE ROOM

STAIR #4A

STAIR #10A

PART PLAN 310' LEVEL

PART PLAN 310' LEVEL

PART PLAN 294' LEVEL

ANTI TERRIE WALL HYDRANT SHALL BE SUEN MODLE No. E-1310

FOR CONTINUATION SEE DWG. P-1-

FOR CONTINUATION SEE PLAN THIS DWG. FRONT FRAME PIPE IN PLENUM AREA

NOTE: THIS DWG. SUPERSEDES DWG. P-K-14

NORTH

SOUTH

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REVISIONS

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CHIEF, PLANNING DIVISION

DATE

TITLE: SUBGRADE PLAN-ZONE K
SUBLEVEL-EL. P-K

DRAWN: PJT
DETAILS: 1/8"=1'-0"
SPECS:
DES. SUPV.: M.Y.C.
CHECKED:

P-K-

RAMP J

RAMP G

CONTROL BOOTH

NORTH SPLICE CHAMBER TOP OF SLAB EL. 302'-9"

UNDER SPLICE CHAMBER

CENTER SPLICE CHAMBER TOP OF SLAB EL. 300'-7"

EXPANSION LOOP

ACCESS DOOR FOR PIER

ANCHOR

CONCRETE PIER

METER ROOM DETAIL DWG P-X-16

SEE M.H.A.C. DWGS

LOADING PLATFORM EL. 294'-0"

TOWER B TOP OF SLAB EL. 294'-0"

CORRIDOR

TENANT STORAGE TOP OF SLAB EL. 294'-0"

STEAM VALVE ROOM EL. 294'-0"

METER ROOM

SOUTH SPLICE CHAMBER

NORTH

NOTES

1. ALL DIMENSIONS SHOWN TO SLURRY WALL ARE BASED ON NOMINAL DESIGN LOCATION OF WALL. ACTUAL FIELD POSITION OF SLURRY WALL MAY VARY WHICH WILL AFFECT CLEAR DIMENSION OF UTILITY RACK.
6. FOR DETAILS OF SPLICE CHAMBERS SEE DWG. E-20-SK (SAII), CON EDISON CO.
9. FOR DIMENSIONS AND LOCATION OF PANELS SEE DWG P-X-5
4. FOR GENERAL NOTES & SYMBOLS SEE DWG P-X-27
5. FOR CONTN OF ALL LINES BEYOND UTILITY RACK, WALL TEL DWGS SP-X-18, SP-X-20, P-X-13, P-X-14
6. FOR CON ED CONDUIT SEE ELECTRICAL CONDUIT DWG'S
7. FOR C.W. SADDLES & INSULATION REFER TO SPECS FOR USE ON SUPPORTS
8. SUPPORTS TO BE LOCATED A MINIMUM OF 3'-0" ON CENTERS OR A MINIMUM OF (2) TWO PER 10-INCH ON BEND
9. FOR DETAILS & SECTIONS OF PIPING THIS DWG SEE DWGS P-X-16, P-X-17

1/8" = 1'-0" scale 0 5 10 15 20 feet

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THE PORT OF NEW YORK AUTHORITY — PAVING, UTILITIES, FOUNDATIONS

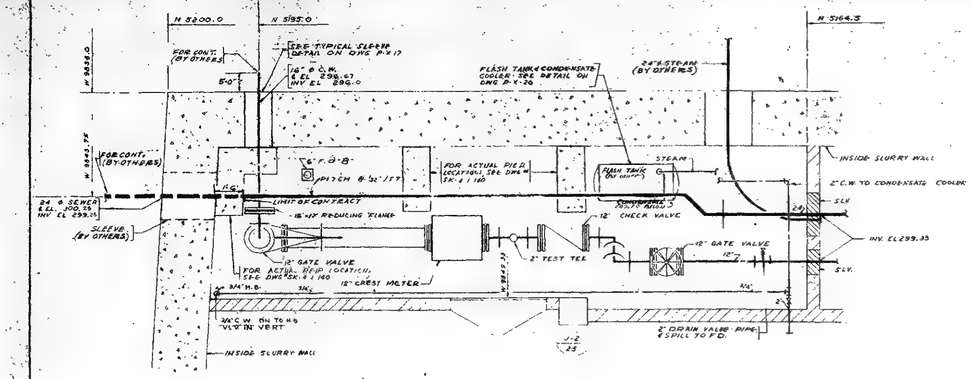
REVISIONS

APPROVED

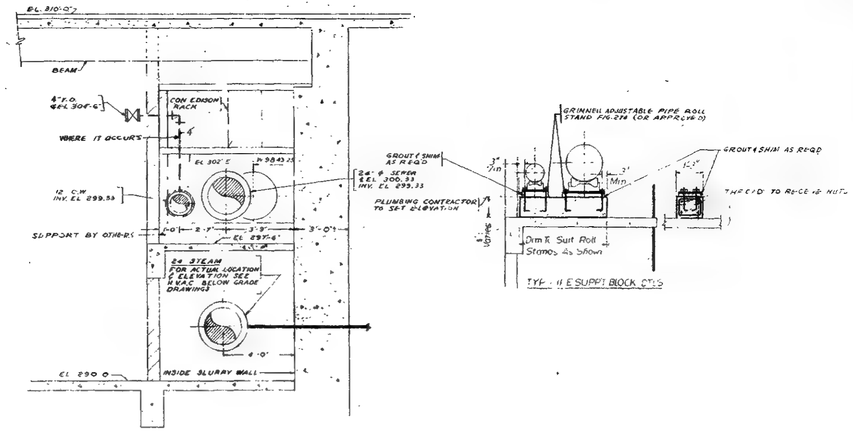
DATE

TITLE: UTILITY RACK EL. 290'-294'

DRAWN	W.F.M.	CHECKED	E.A.S.
SCALE	1/8"=1'-0"	DATE	5-15-68
CONTRACT NUMBER		SHEET	OF
DRAWING NUMBER	P-X-15		



NORTH METER ROOM

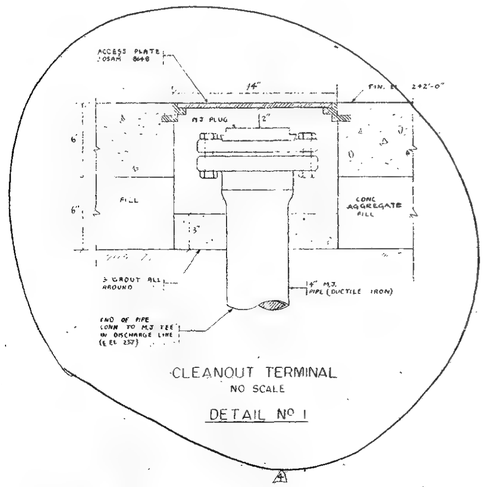


SECTION B-B

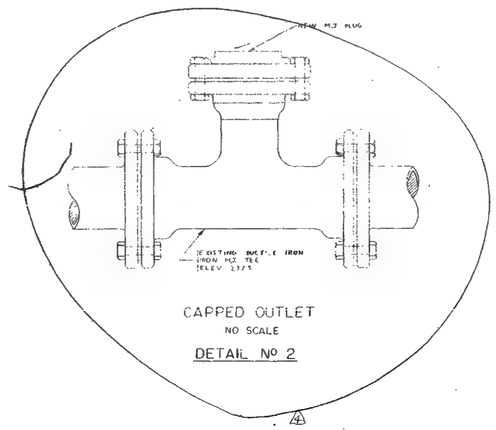
SECTION A-A

SECTION C-C

SECTION D-D



CLEANOUT TERMINAL
NO SCALE
DETAIL NO 1



CAPPED OUTLET
NO SCALE
DETAIL NO 2

NOTE
1. FOR GENERAL NOTES & SYMBOLS SEE DWG # P-X-1
2. CONCRETE SUPPORTS PIERS, TO BE BY OTHERS
3. 1" INSULATION ON C.W.
4. FOR LOCATION OF SECTIONS SEE P-X-15

NO.	DATE	BUL. NO.	BY
4	10-13-72		RB
3	1-20-69	56-6	J.C.
2	9-17-68	55-2	A.F.
1	7-10-68		E.P.

REVISIONS

APPROVED

CHIEF, ELECTRICAL DIVISION

DATE

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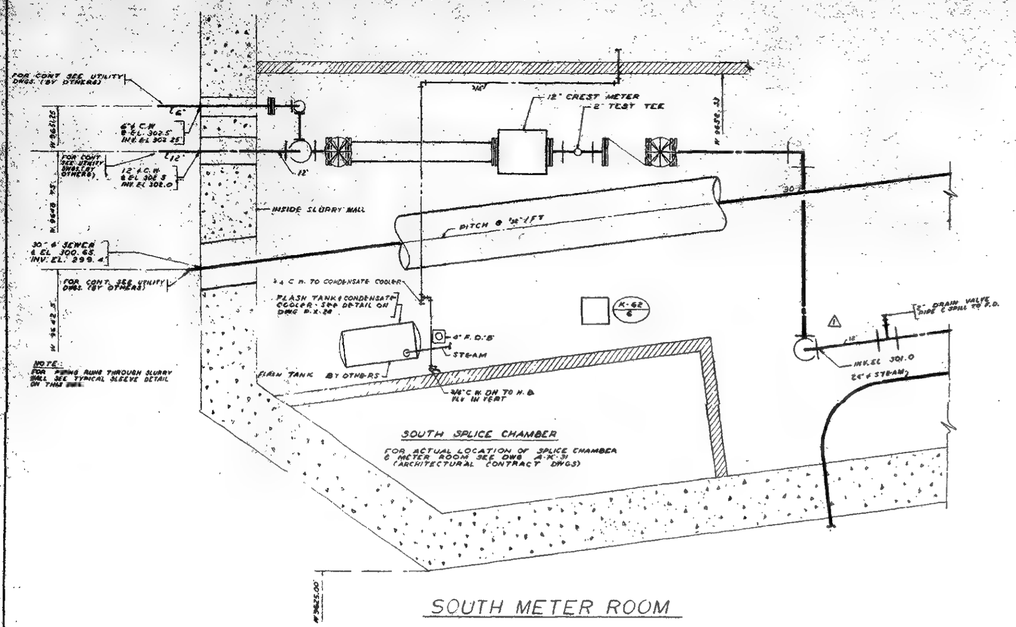
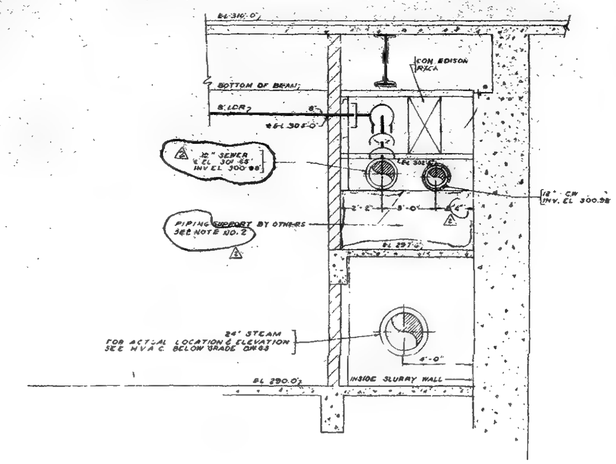
TITLE: DETAIL SHEET No.1

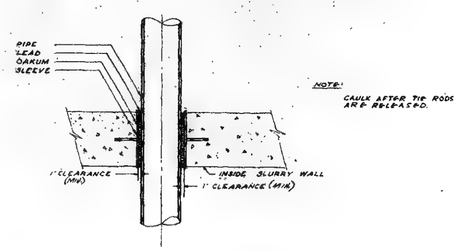
DRAWN	W. F.M	CHECKED	FAS
SCALE	NONE	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-X-16		



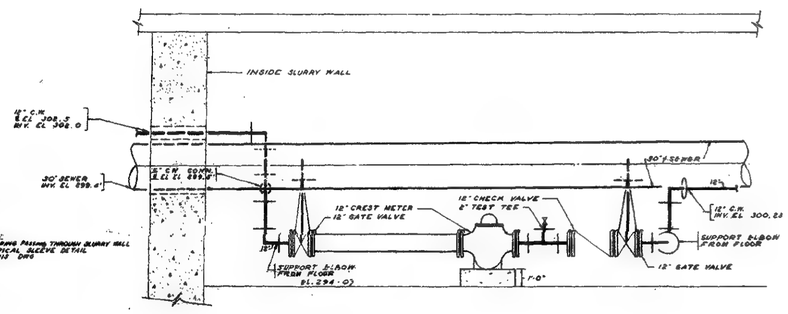
SOUTH METER ROOM



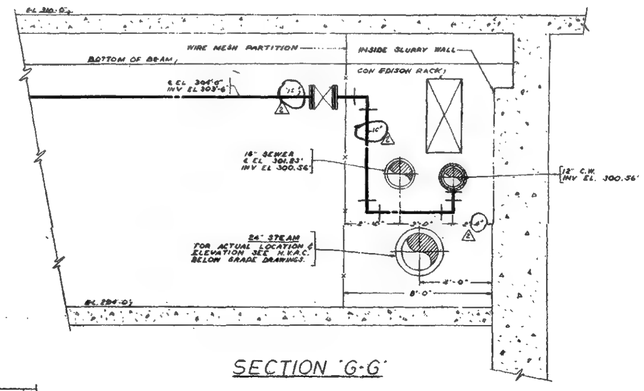
SECTION F-F



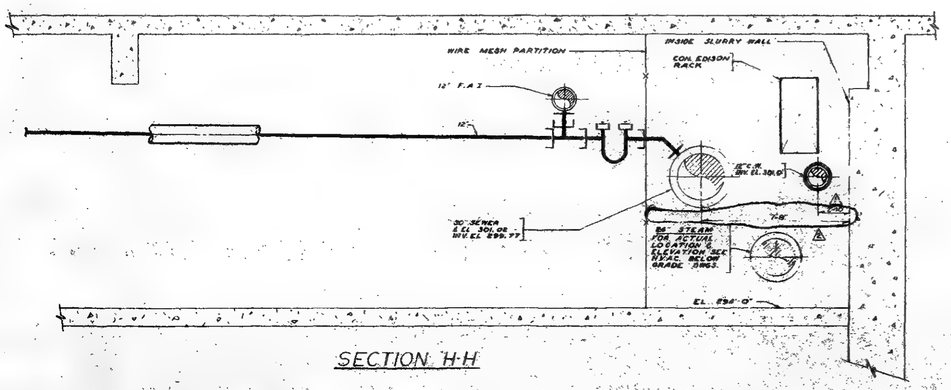
TYPICAL SLEEVE DETAIL
NO SCALE



SECTION J-J



SECTION G-G



SECTION H-H

NOTES:
1. FOR GENERAL NOTES & SYMBOLS SEE DWG P-X-27
2. FOR SUPPORTS OF SEWER & WATER LINES SEE STRUCTURAL DRAWINGS
3. 1" INSULATION ON C.W.
4. FOR LOCATION OF SECTIONS SEE P-X-16.

REVISIONS				REVISIONS		
NO.	DATE	REQ. NO.	BY	NO.	DATE	REQ. NO.	BY
2	7-7-69	GG-6	E.M.				
1	10-6-68		J.E.				

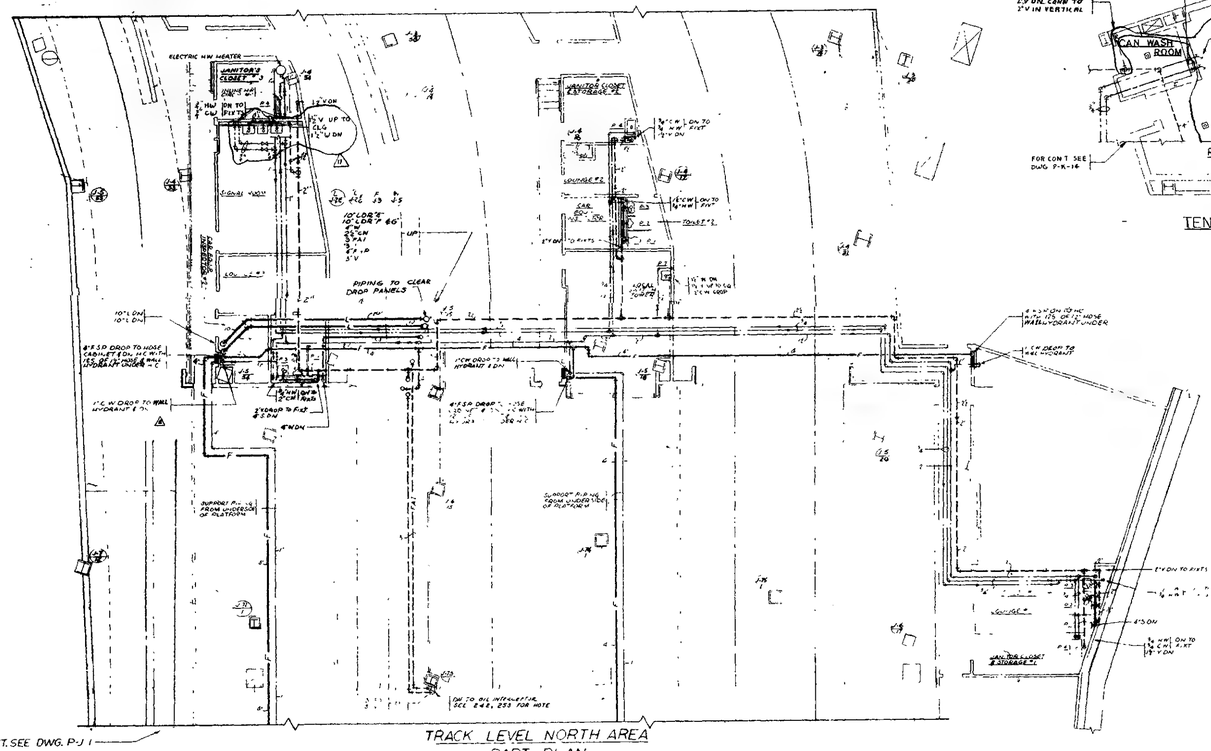
APPROVED
CHIEF, PLANNING DIVISION
DATE

THE WORLD TRADE CENTER
THE PORT OF NEW YORK AUTHORITY

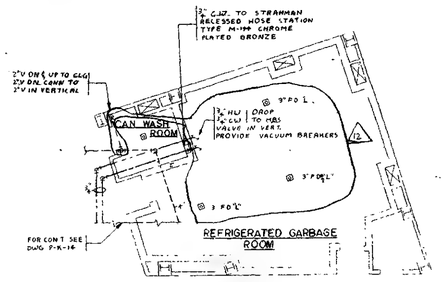
MINORU YAMASAKI & ASSOCIATES MINORU YAMASAKI, ARCHITECT	EMERY ROTH & SONS RICHARD ROTH, ARCHITECT
WORTHINGTON, SKILLING, HELLE & JACKSON STRUCTURAL ENGINEERS	JAROS, BAUM & BOLLES MECHANICAL ENGINEERS
JOSEPH R. LORING & ASSOCIATES ELECTRICAL ENGINEERS	THE PORT OF NEW YORK AUTHORITY PAVING, UTILITIES, FOUNDATIONS

TITLE: DETAIL SHEET No. 2

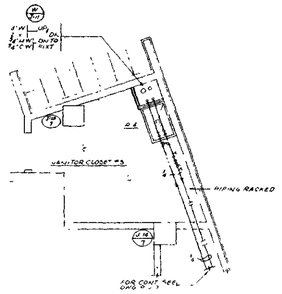
DRAWN	W.F.M.	CHECKED	F.A.S.
SCALE	NONE	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-X-17		



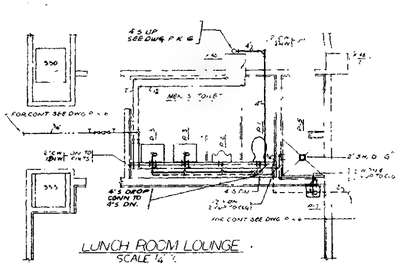
TRACK LEVEL NORTH AREA
PART PLAN



TENANT REFUSE AREA
SCALE 8"=1'-0"

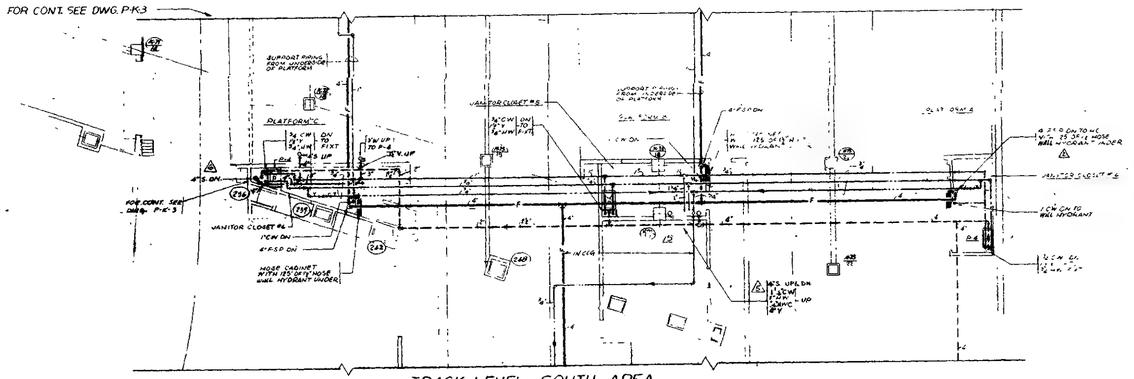


MEZZANNIE LEVEL
SCALE 1/4"=1'0"



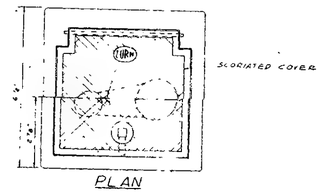
LUNCH ROOM LOUNGE
SCALE 1/4"=1'-0"

TERMINAL FLOOR PLAN
SOUTH AREA EL 250.0'

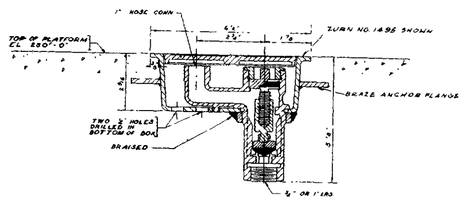


TRACK LEVEL SOUTH AREA
PART PLAN

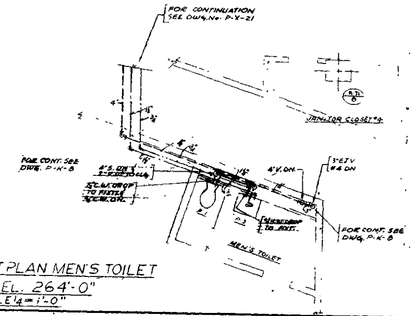
NOTES:
1. FOR GENERAL NOTES & SYMBOLS SEE DWG No. P-X-27



PLAN



SECTION
DETAIL OF BOX HYDRANT
NO SCALE



PART PLAN MEN'S TOILET
AT EL. 264'-0"
SCALE 1/4"=1'-0"

NO.	DATE	BUL. NO	BY
12	5-18-72	SG 208	RB
11	5-18-72	SG 191	RB
10	10-6-71	182	MA
9	9-27-71	SG 118	SAS
8	7-27-71	SG 120	G.P.
7	10-6-71	SG 173	E.I.
6	3-30-70	SG 33	E.I.
5	12-19-69	SG 16	S.K.
4	6-3-69	SG 15	J.C.
3	1-20-69	SG 6	K.W.
2	9-17-68	SK 2	J.E.
1	7-15-68		E.M.

REVISIONS

APPROVED

CHIEF, PLANNING DIVISION

DATE

THE WORLD TRADE CENTER
THE PORT OF NEW YORK AUTHORITY

MINORU YAMASAKI & ASSOCIATES
MINORU YAMASAKI, ARCHITECT

EMERY ROTH & SONS
RICHARD ROTH, ARCHITECT

WORTHINGTON, SKILLING, NELLE & JACKSON
STRUCTURAL ENGINEERS

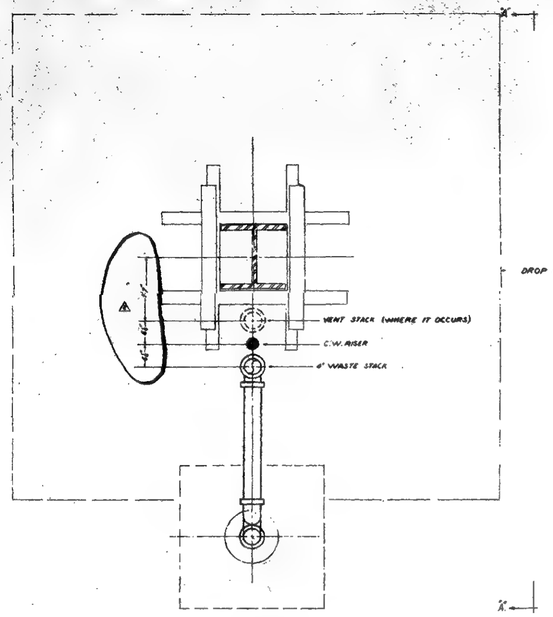
JAROS, BAUM & BOLLES
MECHANICAL ENGINEERS

JOSEPH R. LORING & ASSOCIATES
ELECTRICAL ENGINEERS

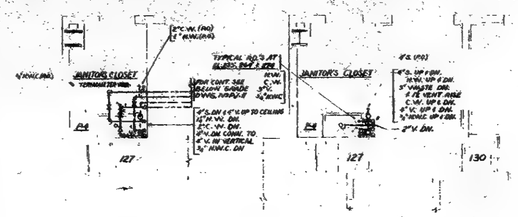
THE PORT OF NEW YORK AUTHORITY
PAVING, UTILITIES, FOUNDATIONS

TITLE: DETAIL SHEET No.3

DRAWN	R.A	CHECKED	F.A.S.
SCALE	AS NOTED	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-X-18		

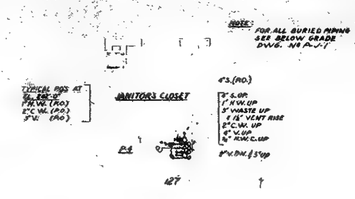


PLAN
DETAIL TYPICAL COLUMNS
4" WASTE STACK - C.W. RISER & VENT STACK
&
LOCATION OF FLOOR DRAIN

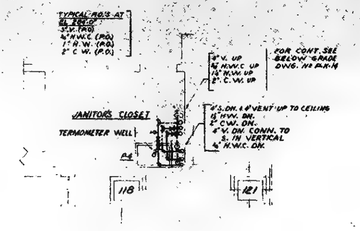


PART PLAN OF MOP RECEPTOR
ZONE 'J' EL. 284'-0"

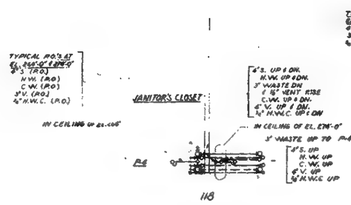
PART PLAN OF MOP RECEPTOR
ZONE 'J' EL. 253'-0", 264'-0" & 274'-0"



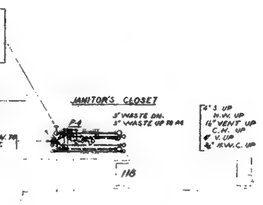
PART PLAN OF MOP RECEPTOR
ZONE 'J' EL. 242'-0"



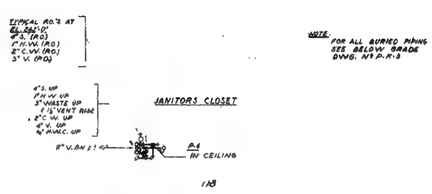
PART PLAN OF MOP RECEPTOR
ZONE 'K' EL. 264'-0"



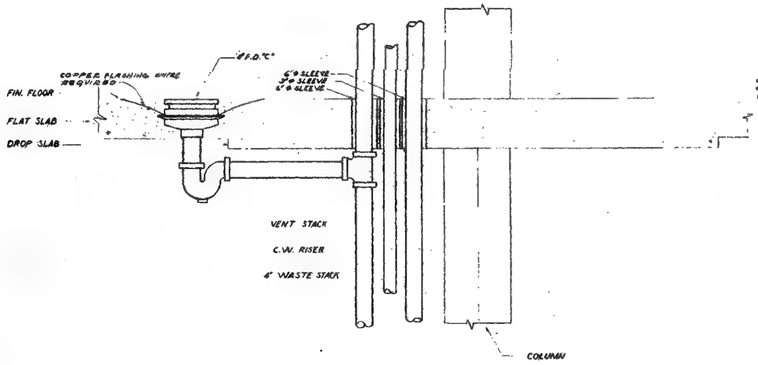
PART PLAN OF MOP RECEPTOR
ZONE 'K' EL. 264'-0" & 274'-0"



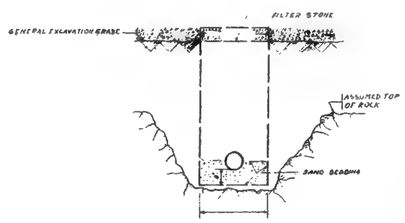
PART PLAN OF MOP RECEPTOR
ZONE 'K' EL. 253'-0"



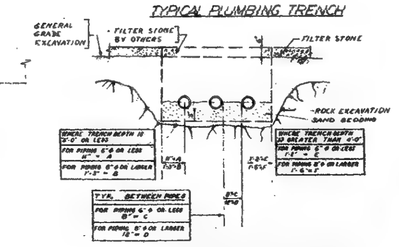
PART PLAN OF MOP RECEPTOR
ZONE 'K' EL. 242'-0"



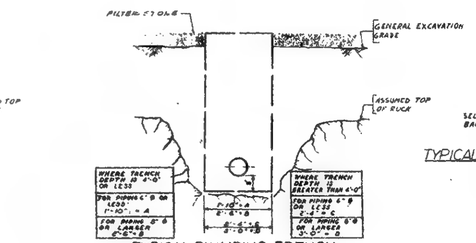
SECTION 'A'-'A'



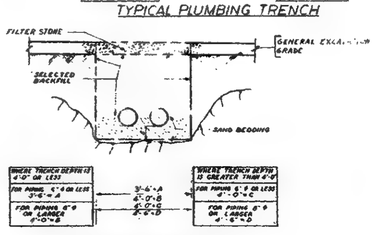
TYPICAL PLUMBING TRENCH



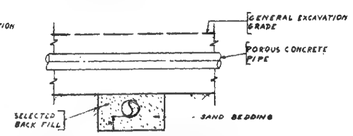
TYPICAL PLUMBING TRENCH
FOR 3 OR MORE PIPES



TYPICAL PLUMBING TRENCH



TYPICAL PLUMBING TRENCH
FOR TWO PIPES



TYPICAL INTERSECTION OF DRAINAGE AND PLUMBING TRENCHES

NOTE:
1. FOR GENERAL NOTES & SYMBOLS SEE DWG NO P-X-27
2. FOR TRENCHING DETAILS SEE DWGS P-X-30, P-X-31, & P-X-32

NO.	DATE	REVISIONS	BY
2	1-20-69	56-6	J.C.
1	9-17-68	56-2	SE

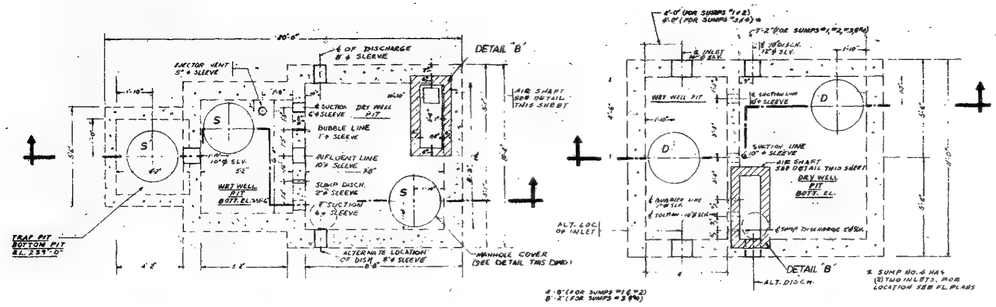
APPROVED
CHIEF, PLANNING DIVISION
DATE

THE WORLD TRADE CENTER
THE PORT OF NEW YORK AUTHORITY

MINORU YAMASAKI & ASSOCIATES MINORU YAMASAKI, ARCHITECT	EMERY ROTH & SONS RICHARD ROTH, ARCHITECT
WORTHINGTON, SKILLING, HELLE & JACKSON STRUCTURAL ENGINEERS	JAROS, BAUM & BOLLES MECHANICAL ENGINEERS
JOSEPH R. LORING & ASSOCIATES ELECTRICAL ENGINEERS	THE PORT OF NEW YORK AUTHORITY PAVING, UTILITIES, FOUNDATIONS

TITLE: DETAIL SHEET No.4

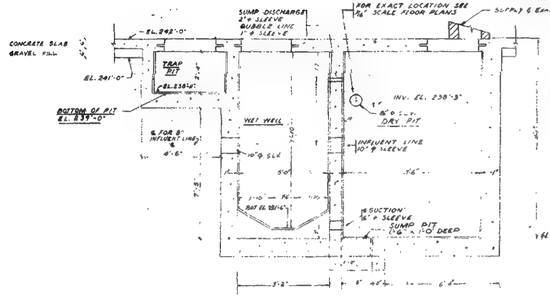
DRAWN	J.E.	CHECKED	F.A.S.
SCALE	NONE	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-X-19		



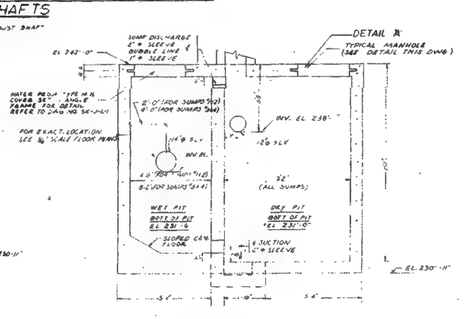
EJECTOR PIT

SUMP PIT

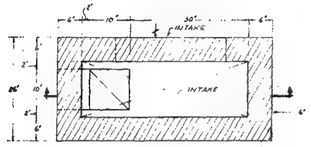
DETAIL OF SLEEVE, MANHOLES & EXHAUST SHAFTS



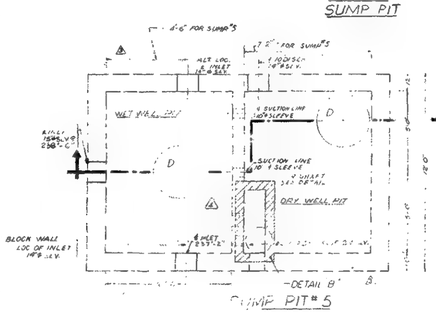
SECTION
EJECTOR PIT



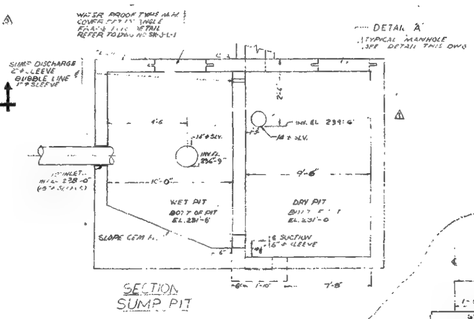
SECTION
SUMP PIT



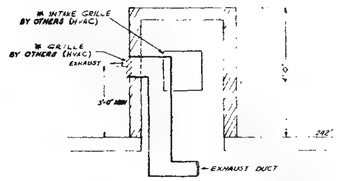
PLAN TYP. SUMP & EJECTOR PIT
AIR SHAFT ENCLOSURE



SUMP PIT #5

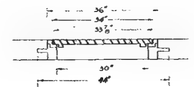


SECTION
SUMP PIT



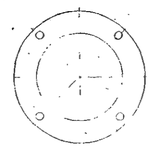
NOTE:
1. 8 DUCTS AND GRILLE BY OTHERS (H'VAC) EXHAUST DUCT BY OTHERS (H'VAC) TO BE CONNECTED TO EXHAUST FAN. EXHAUST FAN BY PLUMBER.

ELEVATION
DETAIL 'B'



DETAIL 'A'

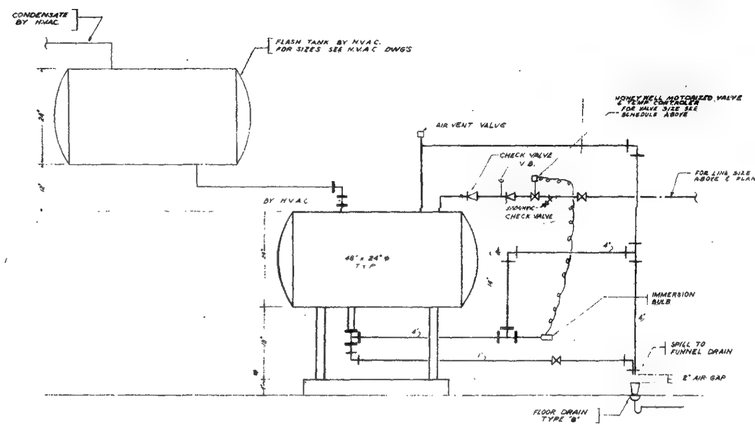
NOTE:
1. FOR GENERAL NOTES & SYMBOLS SEE DWG. NO. P-X-27



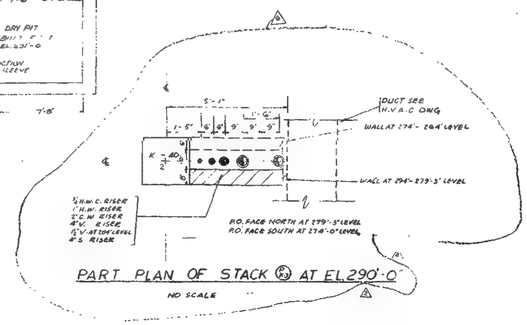
PUMP SUPPORT MOUNTING
PLAN

SCHEDULE FOR CONDENSATE TANK WATER VALVE

CONDENSATE COOLER	VALVE SIZE	LINE SIZE (INCLUDING ALL OTHER VALVES		@ P.W. P.S.I.	PRESS. DROP
#1	1½"	2"		25	2 P.S.I.
#2	1"	1¼"	—	12	2 P.S.I.
#3	2"	3"	—	4	2 P.S.I.
#4	1"	1¼"	—	12	2 P.S.I.
#5	1½"	1½"		30	2 P.S.I.



CONDENSATE COOLER DETAIL
(FOR LOCATION & C.W. SIZES SEE FLOOR PLANS)



PART PLAN OF STACK (P3) AT EL 290'-0"
NO SCALE

NO.	DATE	REVISIONS	BY
6	5-15-70	SG-51	JJ
5	12-19-69	SG-5	SJC
4	3-18-69	SG-10	BK
3	1-1-969	SG-6	WB
2	9-17-68	SG-2	JE
1	7-10-68	SG-1	AT

APPROVED

CHIEF, PLANNING DIVISION
DATE

THE WORLD TRADE CENTER
THE PORT OF NEW YORK AUTHORITY

MINORU YAMASAKI & ASSOCIATES
MINORU YAMASAKI, ARCHITECT

EMERY ROTH & SONS
RICHARD ROTH, ARCHITECT

WORTHINGTON, SKILLING, HELLE & JACKSON
STRUCTURAL ENGINEERS

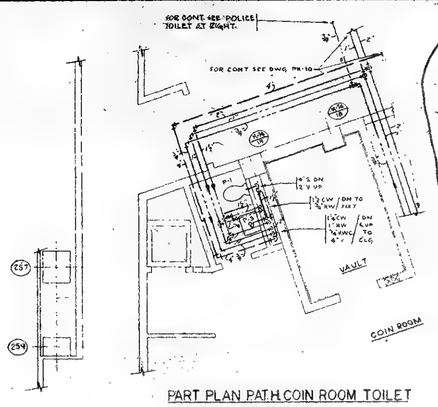
JAROS, BAUM & BOLLES
MECHANICAL ENGINEERS

JOSEPH R. LORING & ASSOCIATES
ELECTRICAL ENGINEERS

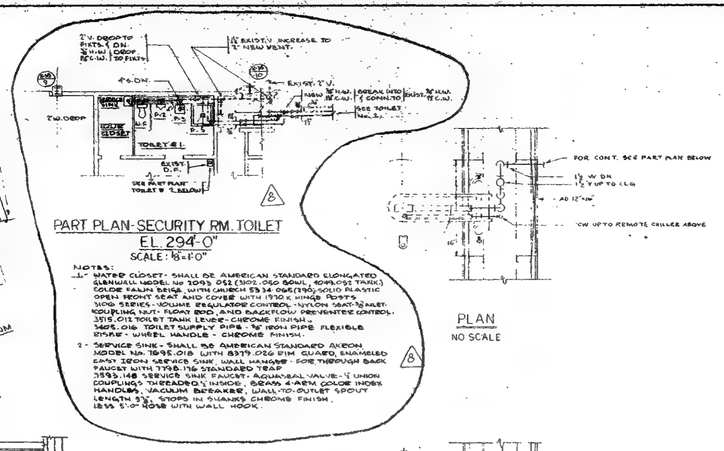
THE PORT OF NEW YORK AUTHORITY
PAVING, UTILITIES, FOUNDATIONS

TITLE: DETAIL SHEET NO. 5

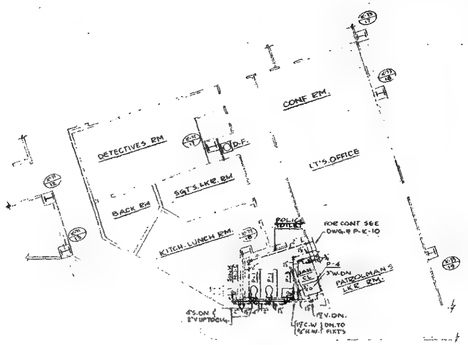
DRAWN	J.E.	CHECKED	F.A.S.
SCALE	NONE	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-X-20		



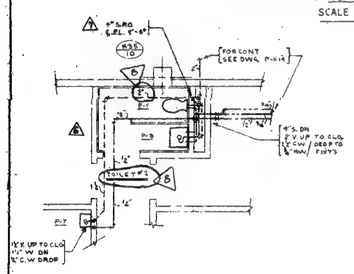
PART PLAN PATH COIN ROOM TOILET
EL. 264'
SCALE 1/4"=1'-0"

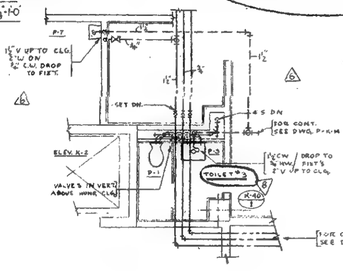


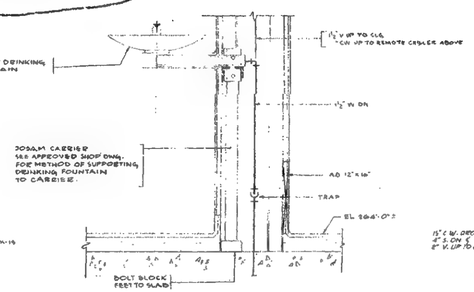
PLAN
NO SCALE



PART PLAN OF POLICE FACILITY TOILET
SCALE 1/8"=1'

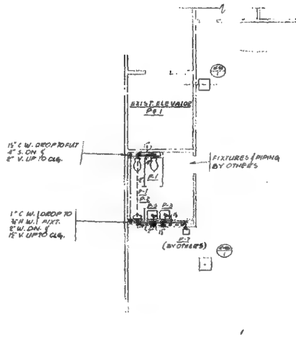




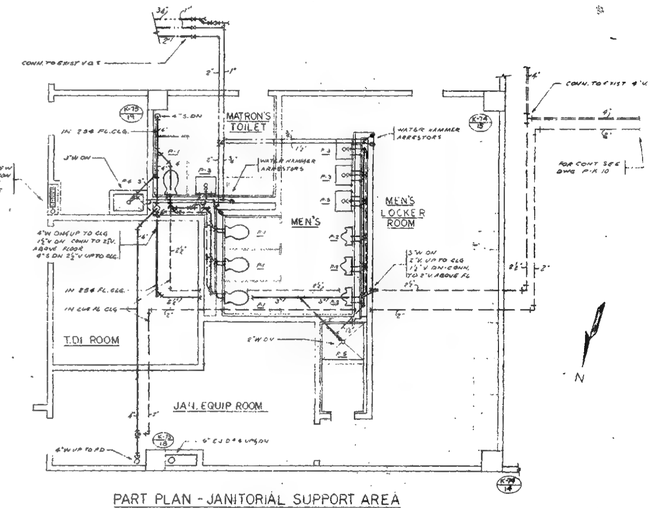


PART PLANS - SECURITY RM. TOILETS
EL. 294'
SCALE 1/4"=1'-0"

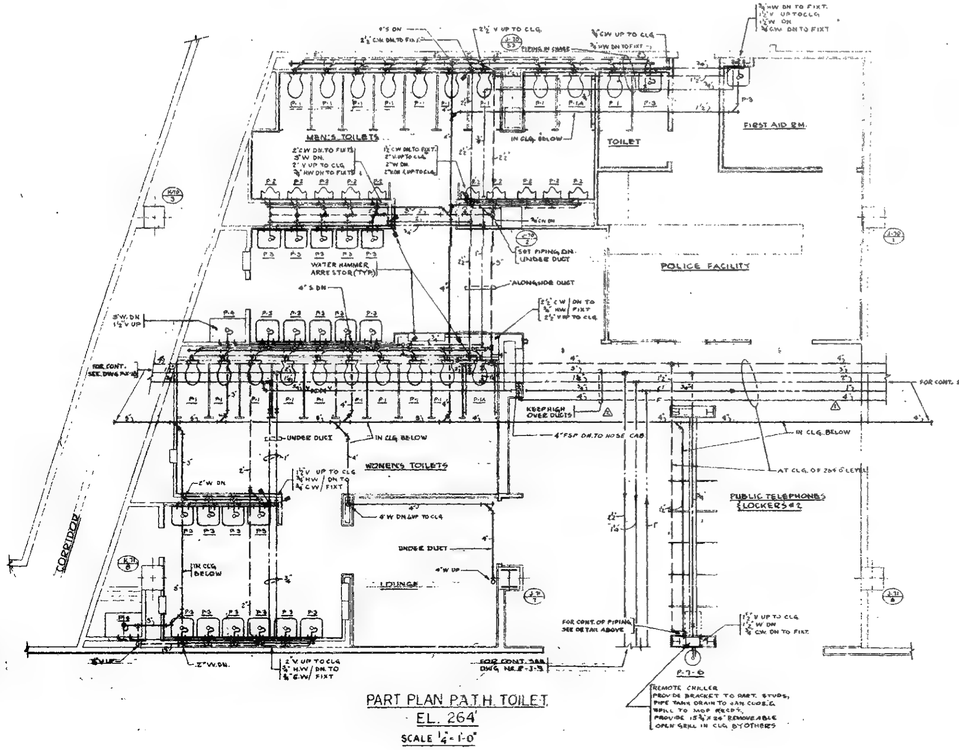
DRINKING FOUNTAIN ELEVATION (P-7-B)
NO SCALE



PART PLAN OF MENS TOILET
SUB GRADE LEVEL EL. 294'-0" (SCALE 1/8"=1'-0")

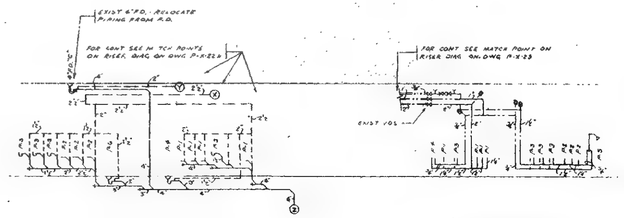


PART PLAN - JANITORIAL SUPPORT AREA
EL. 264'
SCALE 1/4"=1'-0"



PART PLAN P.A.T.H. TOILET
EL. 264'
SCALE 1/4"=1'-0"

NOTE:
1) SPECIFICATION FOR PATH DRINKING FOUNTAIN: DRINKING FOUNTAIN SHALL BE "SUDLER" MODEL NO 2 STAINLESS STEEL 16" DIAMETER BRUSHED FINISHED WITH CONTOURED BASIN WITH DRAIN AND REMOVABLE CHECK PLATE GRID STRAINER WITH ACCESS TO DRAIN LINE. PUSH BOTTON OPERATED AUTOMATIC STREAM REGULATING VALVE. REMOVABLE ACCESS PANEL WITH LOUVERED GRILLE. STAINLESS STEEL BRUSHED FINISHED TO SERVICE COOLING PACKAGE, COOLING PACKAGE SHALL BE HORLEY TAYLOR MODEL NO HR3QA MODIFIED AND SHALL HAVE MINIMUM CAPACITY OF 10 G.P.H. OF 55° WATER WITH 80DEA TEMPERATURE OF 90° INLET WATER TEMPERATURE OF 80°. HERMETICALLY SEALED COMPRESSOR WITH STARTING CAPACITOR, LIFETIME LUBRICATION, BUILT IN OVERLOAD PROTECTOR, 110 VOLTS, 60 CYCLE, A.C., SINGLE PHASE, 1/4 HORSE POWER MOTOR, 3-WIRE GROUNDING TYPE LEADS, WALL BOX FOR ROUGHING OF ELECTRICAL AND PLUMBING CONNECTIONS. FINNED TUBE CONDENSER AIR-COOLED SILENT OPERATING FAN AND MOTOR. 5 YEAR GUARANTEE. UL AND CSA APPROVED.



PART SANITARY RISER

PART WATER RISER

NO.	DATE	REVISIONS	BY
8	4-16-74	SG-190	JI
7	5-18-72	SG 218	RB
6	5-18-72	SG-207	RB
5	8 17 71	SG 191	LM
4	7-27-71	SG 148	JEC
3	10-6-71	SG-173	JI
2	5-13-70	SG-53	JI
1	3-24-70	SG-53	JI

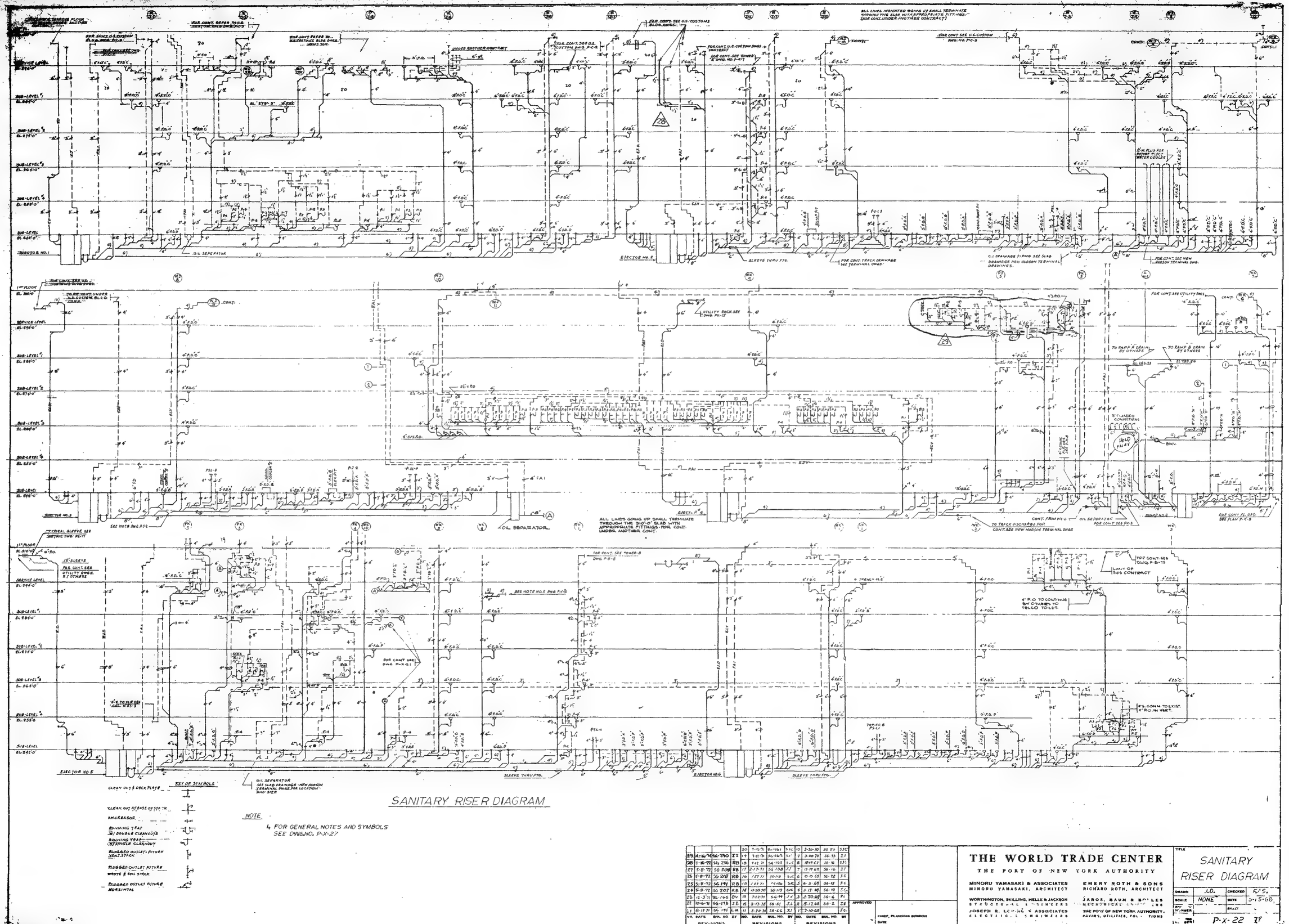
APPROVED
CHIEF, PLANNING DIVISION
DATE

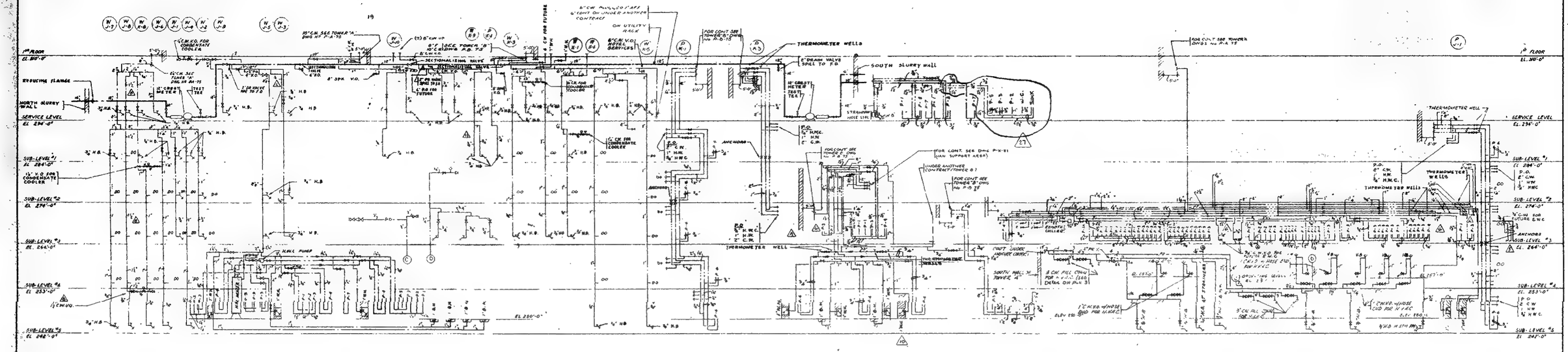
THE WORLD TRADE CENTER
THE PORT OF NEW YORK AUTHORITY

MINORU YAMASAKI & ASSOCIATES MINORU YAMASAKI, ARCHITECT	EMERY ROTH & SONS RICHARD ROTH, ARCHITECT
WORTHINGTON, SKILLING, HELLE & JACKSON STRUCTURAL ENGINEERS	JAROS, BAUM & BOLLES MECHANICAL ENGINEERS
JOSEPH R. LORING & ASSOCIATES ELECTRICAL ENGINEERS	THE PORT OF NEW YORK AUTHORITY PAVING, UTILITIES, FOUNDATIONS

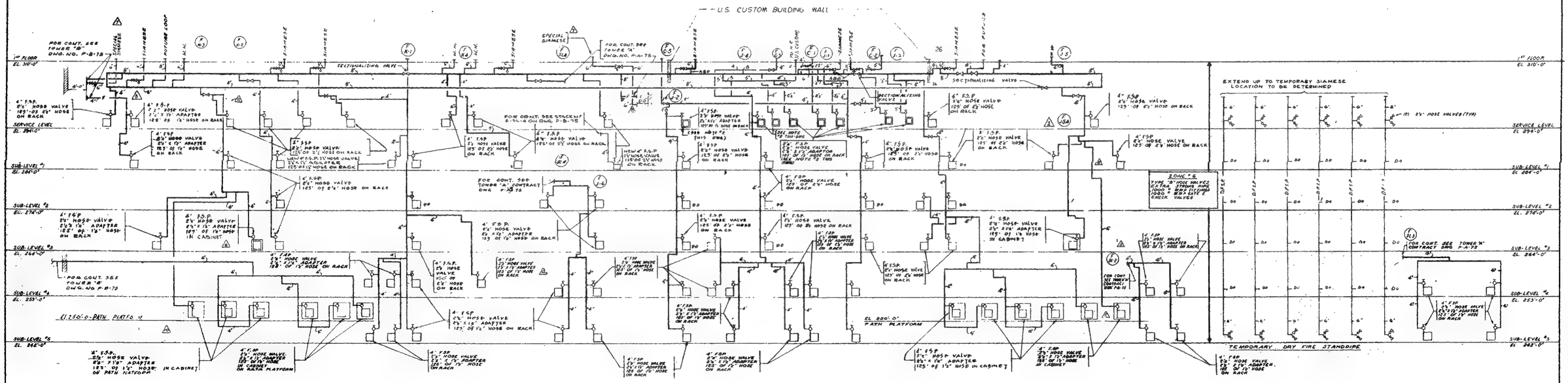
TITLE: DETAIL SHEET NO 6

DRAWN	S.J.C.	CHECKED	F.A.S.
SCALE	AS NOTED	DATE	1-29-69
PROJECT NUMBER		SHEET	
DRAWING NUMBER	P-X-23		


SERVICE LEVEL EL. 396'-0"
SUB-LEVEL 1 EL. 366'-0"
SUB-LEVEL 2 EL. 336'-0"
SUB-LEVEL 3 EL. 306'-0"
SUB-LEVEL 4 EL. 276'-0"
SUB-LEVEL 5 EL. 246'-0"
1ST FLOOR EL. 310'-0"
SUB-LEVEL EL. 246'-0"
EJECTOR NO. 1
EJECTOR NO. 2
EJECTOR NO. 3
EJECTOR NO. 4
EJECTOR NO. 5
OIL SEPARATOR
SLEEVE THRU FTG.
TOWER B
TOWER A
SUMP PIT
ALL LINES INDICATED GOING UP SHALL TERMINATE THROUGH THE SLAB WITH APPROPRIATE FITTINGS - FOR CONT. UNDER ANOTHER CONTRACT
FOR CONT. SEE U.S. CUSTOMS BLDG. SANIT. P-C
FOR CONT. SEE TOWER B DWG. NO. P-B-7
FOR CONT. SEE U.S. CUSTOM DWG. P-C-3
FOR CONT. SEE NEW HUDSON TERMINAL DWGS.
FOR CONT. TRACK DRAINAGE SEE TERMINAL DWGS.
C.I. DRAINAGE TYPING SEE SLAB DRAINAGE NEW HUDSON TERMINAL DRAWINGS.
FOR CONT. SEE UTILITY DWGS.
TO RAMP A DRAIN BY OTHERS
TO RAMP B DRAIN BY OTHERS
TO TRUCK DISCHARGE FOR CONT. SEE NEW HUDSON TERMINAL DWGS
FOR CONT. SEE TOWER B DWG. P-B-8
FOR CONT. SEE DWG. P-B-15
LIMIT OF THIS CONTRACT
4" P.O. TO CONTINUE BY OTHERS TO TOILET
6" S. CONN. TO EXIST. 6" R.O. IN VAULT.
SEE NOTE NO. 2 DWG. P-2C
SEE NOTE NO. 2 DWG. P-2B
SEE NOTE NO. 2 DWG. P-2A
TYPICAL SLEEVE SEE SECTIONAL DWG. P-C-17
18" SLEEVE FOR CONT. SEE UTILITY DWGS. BY OTHERS
4" V. TO FUTURE SEE DWG. P-B-3
FOR CONT. SEE DWG. P-B-6
FOR CONT. SEE TOWER B DWG. P-B-8
SEE NOTE NO. 2 DWG. P-B
FOR CONT. SEE DWG. P-C-2
FOR CONT. SEE DWG. P-C-5
FOR CONT. SEE DWG. P-C-6
FOR CONT. SEE DWG. P-C-7
FOR CONT. SEE DWG. P-C-8
FOR CONT. SEE DWG. P-C-9
FOR CONT. SEE DWG. P-C-10
FOR CONT. SEE DWG. P-C-11
FOR CONT. SEE DWG. P-C-12
FOR CONT. SEE DWG.



WATER RISER DIAGRAM



FIRE STANDPIPE RISER DIAGRAM

NOTES:
1. FOR GENERAL NOTES & SYMBOLS SEE DWG P-X-27
2. PROVIDE HOSE VALVE FOR FUTURE HOSE RACK (WILL TO BE FURNISHED & INSTALLED UNDER ANOTHER CONTRACT)

NO	DATE	BULL. NO.	BY
21	12-3-71	SG-165	BV
22	5-8-72	SG-208	RB
23	5-9-72	SG-191	RB
24	5-8-72	SG-208	RB
25	6-19-72	SG-205	RB
26	3-22-72	SG-262	RB
27	8-16-72	SG-290	RB

REVISIONS

NO	DATE	BULL. NO.	BY
20	8-16-71	SG-141	LM
19	7-19-71	SG-119	SJC
18	7-12-71	SG-101	SJC
17	7-12-71	SG-138	RB
16	7-27-71	SG-120	SJC
15	7-27-71	SG-118	SJC
14	10-5-70	SG-114	SJC
13	1-11-70	SG-51	RB
12	9-30-70	SG-60	SJC
11	9-23-71	SG-50	SJC

REVISIONS

NO	DATE	BULL. NO.	BY
10	3-20-70	SG-43	SJC
9	3-20-70	SG-33	JJ
8	12-18-69	SG-5	SJC
7	12-19-69	SG-32	RB
6	12-19-69	SG-16	RB
5	6-3-69	SG-15	JC
4	5-19-69	SG-10	JC
3	1-20-69	SG-6	JC
2	9-17-68	SG-2	AF
1	7-10-68		JC

REVISIONS

APPROVED

CHIEF, PLANNING DIVISION

DATE

THE WORLD TRADE CENTER
THE PORT OF NEW YORK AUTHORITY

MINORU YAMASAKI & ASSOCIATES
MINORU YAMASAKI, ARCHITECT

EMERY ROTH & SONS
RICHARD ROTH, ARCHITECT

WORTHINGTON, SKILLING, HELLE & JACKSON
STRUCTURAL ENGINEERS

JAROS, BAUM & BOLLES
MECHANICAL ENGINEERS

JOSEPH R. LORING & ASSOCIATES
ELECTRICAL ENGINEERS

THE PORT OF NEW YORK AUTHORITY
PAVING, UTILITIES, FOUNDATIONS

TITLE: WATER & F.S.P. RISER DIAGRAM

DRAWN		CHECKED	F.A.S.
SCALE	NONE	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-X-23		

DRAINS

	DESIGNATION	REQUIRED	ZURN INDUSTRIES MODEL NO.	BODY: CAST IRON, ACID RESISTING ENAMEL	BODY: GALVANIZED	BODY: ALL BRONZE	BODY: NICKEL BRONZE	BODY: BOTTOM OUTLET	BODY: 45° OUTLET	BODY: SIDE OUTLET	BODY: OTHER OUTLET	BODY: CLAMPING DEV.	BODY: DECK CLAMP	BODY: BACK WATER VALVE	BODY: THREADED OUTLET	BODY: INSIDE CAULK	BODY: E.D. RECEIVER PLATE	BODY: CHROME PLATED	STRAINER: BRONZE MESH SCREEN	STRAINER: CAST IRON	STRAINER: LACQUER COATED	STRAINER: GALVANIZED	STRAINER: SEDIMENT BUCKET	STRAINER: SECONDARY STRAINER	STRAINER: BRONZE	STRAINER: NICKEL-BRONZE	STRAINER: CHROME-PLATED	STRAINER: SATIN FINISH	STRAINER: TRACTOR GRATE	STRAINER: DURISIST COVER	STRAINER: FUNNEL TOP	STRAINER: FLAT TOP	STRAINER: HIGH DOME	STRAINER: LOW DOME	STRAINER: EXTENSION PIECE	STRAINER: VERTICAL ADJUST.	STRAINER: TOP SIZE	STRAINER: ANGLE TYPE	STRAINER: RAISED LIP	BACK WATER VALVE	REMARKS
A		●	ZG-521		●			●				●			●	●				●											●			●	●					MECH. EQUIP. RM'S.
* B		●	ZG-521 MOD.		●			●				●			●	●				●								●			●			●	●					GARAGE & TENANT STORAGE
** C		●	ZG-521		●			●				●			●	●				●											●			●	●					SPRINKLER ALARM VALVE DISCH.
D		●	ZG-543		●			●				●			●	●				●			●								●								RAMP "H" TRENCH DR
E		●	ZG-1864		●			●				●			●	●					●								●			●						M & E 2 INDIRECT WASTE RECEIVER.
F		●	ZG-3241		●			●				●			●	●					●		●						●			●						
G		●	ZN-415-B	●				●				●				●									●										●	5"			SHOWER DR
H		●	ZN-328	●				●								●								●	●						●		●						REFRIGERATOR COMPARTMENT EL. 12'-0"
J		●	ZG-150M		●			●				●			●					●		●			●						●			●					SIDEWALK FINISHED LEVEL
K		●	ZG-121		●			●				●			●				●	●		●																	UNDER SLAB DRAIN WEST OF TOWER 3
L		●	ZG-650		●			●				●			●	●				●		●								●						18"			GARAGE EXHAUST CANOPY HOOD
M																																								
N																																								
O																																								
P																																								
Q																																								
R																																								
S																																								
T																																								

* MODIFIED WITH BOSS FOR 3" I.P.S. THREADED CONNECTION TO RECEIVE 3" I.P.S. CLOSE NIPPLE & 6¾" DIA FUNNEL 7¾" HIGH WITH RECESSED DOME STRAINER

** DURA-COATED CAST IRON FUNNEL TOP LESS BUCKET & LESS GRATE WITH RECESSED DOME STRAINER TOP MODIFIED TO RECEIVE 13'-0") THREE FOOT STANDPIPE 14" DIA CAULKED INTO TOP OF DRAIN (STANDPIPE BY PLUMBING CONTRACTOR)

△ PROVIDE WITH SUMP COVER

VALVE SCHEDULE

	VALVE SPECIFICATIONS: STD. NO.	SIZES	FLANGED	SCREWED	SOLDER	SOCKET	HOSE END	WITH HOSE PIPE	125 S.W.P.	125 W.O.G.	150 S.C.	150 W.O.G.	150 M	ALL IRON	CAST STEEL	125# W.W.P.	175# W.W.P.	200# W.W.P.	250# W.W.P.	300# W.W.P.	400# W.W.P.	600# W.W.P.	800# W.W.P.	1000# W.W.P.	WHERE USED: BEER N' QUEUE	BURIED SERVICE	PD 7.5 AT PUMP	PD 7.5 AT TANK	PD AT TANKS	H.P. SUCTION	150# SCREWED (ASA B2.1)	150# FLANGED (ASA B16.1)	F.S.P. ZONE 1	F.S.P. ZONE 2	F.S.P. ZONE 4	F.S.P. ZONE 6	F.J.P. ZONE 6	SUMP DISCH.	SUCTION DISCH.	RISER PR. PER THROTTLING PLAN	NITROGEN	1½" C.I.	1½" C.I.	2" C.I.	2½" C.I.	3" C.I.	4" C.I.	6" C.I.	8" C.I.	10" C.I.	12" C.I.	14" C.I.	16" C.I.	18" C.I.	20" C.I.	24" C.I.
GATE VALVES	● 1275	¼"-2"		●					●		●							●																																				
	● 571	1"-2"	●						●		●							●																																			
	● 570	¼"-2"		●					●		●							●																																			
	● 570A	¼"-2"		●					●		●							●																																			
	● 677A	¼"-8"	●															●																																			
	630A	1½"-4"		●					●			●						●																																			
	651A	2½"-12"	●						●			●						●																																			
	619	2½"-8"	●						●			●						●																																			
	936	2½"-12"	●						●			●						●																																			
	677	2½"-8"	●						●			●						●																																			
	669	2½"-12"	●						●			●						●																																			
	2064	2½"-6"							●			●							●																																			
	1208	2½"-12"					●					●							●																																			
	1273	2½"-8"					●					●							●																																			
	1010CR	2½"-12"	●									●								●																																		
	1010CM	2½"-12"	●									●								●																																		
	1272	¼"-8"	●																	●																																			
	592	¼"-8"	●																	●																																			
	535	1"-2"	●																	●																																			
	594	¼"-8"	●																	●																																			
	599	¼"-8"	●																	●																																			
		¼"-8"	●																	●																																			
	339R	2"-8"	●																	●																																			
	1028C	¼"-6"	●																	●																																			
	855	¼"-6"	●																	●																																			
	1272	¼"-2"	●																	●																																			
GLOBE & ANGLE VALVES	1-20	¼"-2"	●																	●																																			
	106A	¼"-2"	●																	●																																			
	106B	¼"-8"	●																	●																																			
	113	¼"-1½"	●																	●																																			
	112	¼"-1½"	●																	●																																			
	1270	¼"-2"	●																	●																																			
	612	2½"-6"		●																●																																			
	613	2½"-12"	●																	●																																			
	546 P	¼"-2"	●																	●																																			
PLUG VALVES	1082	¼"-6"	●																	●																																			
	1624	¼"-8"	●																	●																																			
	1623	¼"-6"	●																	●																																			

* ROCKWELL-NORDSTROM VALVE CO. FIGURE

** WILLIAMS & HAGER CO. FIGURE No.

*** ELKHART CO. (REQ'D AT FIRE HOSE STATION)

**** WALWORTH VALVE CO

WATER CLOSET CARRIER FILLING SCHEDULE

CODE: TO ZURN FIXTURE SUPPORTS – LETTERS AND NUMBERS

PREFIX LETTERS: Z – ZURN, E – EXTENDED FITTING WITH CUT OFF SERATIONS, Q – CLOSET CONNECTION, ADJUSTABLE FROM FINISHED WALL, U – "UNIVENT", VENT ON RUN ON SINGLE FITTINGS AND SINGLE VENT ON RUN ON DOUBLE FITTINGS AND T – 1½" OR 2" THREADED SANITARY AUX INLET.

SERIES NUMBERS: 1205/1204 – "MONOLITHIC" OR SHALLOW ROUGH SYSTEM, HORIZONTAL OR VERTICAL, SINGLE OR DOUBLE AND 1205/1206 DEEP ROUGH SYSTEM, HORIZONTAL OR VERTICAL, SINGLE OR DOUBLE

SUFFIX NUMBERS: – 1, ONE HUB INLET AND – 2, TWO HUB INLETS.

SUFFIX LETTERS: S – SYPHON - JET SYSTEM, B – BLOW OUT SYSTEM, H – HUB & SPIGOT FITTINGS, T – THREADED FITTINGS, R – RIGHT HAND HORIZONTAL FITTING OR RIGHT HAND HUB INLET – FITTING, L – LEFT HAND HORIZONTAL FITTING OR LEFT HAND HUB INLET FITTING, AND D – DOUBLE HORIZONTAL OR VERTICAL FITTING

NOTE: "P" DIMENSION – FACE PLATE TO FIN WALL: PROVIDE NIPPLE AND ADJUSTABLE NOSE PIECE

ZURN INDUSTRIES, INC. FIGURE NUMBER	FRONT ELEVATION		SIZE FITTING	SIZE OF HUB INLET OR INLETS	SIZE OF THREADED INLET	HUB & SPIGOT FITTING	THREADED FITTING	REGULAR LENGTH FITTING	EXTENDED FITTING	ADJUSTABLE FITTING	SEPERABLE FITTING (NON ADJ.)	OFFSET FITTING	FOR 12" RIM HEIGHT	FOR 14" RIM HEIGHT	SINGLE HORIZONTAL	DOUBLE HORIZONTAL	SINGLE VERTICAL	DOUBLE VERTICAL	RIGHT HAND FITTING	LEFT HAND FITTING	RIGHT HAND HUB INLET	LEFT HAND HUB INLET	TWO HUB INLETS	RIGHT HAND THREADED INLET	LEFT HAND THREADED INLET	SHALLOW ROUGH FTG.	DEEP ROUGH FTG.	FOOT NUMBER	BLOCK BASE BOLTED TO SLAB	CASTLEYER FOOT	LEAD GASKET & FITTING	"MODEAL" CLOSET GASKET	"TRIMSEAL" FINISHING FR. (ALUM.)	2" VENT HUB CONN.	1½" RIM, "P" DIMEN.
ZQU – 1203 SHR OR L		LEFT HAND SHOWN	4"			●		●		●		●			●				●	●							●				●			●	●	
ZQU – 1205 SHR OR L		LEFT HAND SHOWN	4"			●		●		●		●			●				●	●							●		#4		●			●	●	
ZEQU – 1203 SHR OR L		LEFT HAND SHOWN	4"			●			●	●		●			●				●	●							●				●			●	●	
ZEQU – 1205 SHR OR L		LEFT HAND SHOWN	4"			●			●	●		●			●				●	●							●		#4		●			●	●	
ZEQU – 1203 SHD			4"			●			●	●		●			●				●	●							●				●			●	●	
ZEQU – 1205 SHD			4"			●			●	●		●			●				●	●							●		#4		●			●	●	
ZQU – 1206-1 STR OR L		RIGHT HAND SHOWN	6" & 5"	4"		●	●		●			●				●				●	●						●				●			●	●	
ZQUT – 1206-1 STR OR L		RIGHT HAND SHOWN	6" & 5"	4"	2"	●	●		●			●				●				●	●						●				●			●	●	
ZQU – 1206-2 ST.			8" & 5"	6"		●	●		●			●				●				●	●						●				●			●	●	
ZQU – 1206-2 STD			4"	6"		●	●		●			●				●				●	●						●				●			●	●	
ZQU – 1206-1 STR OR L		LEFT HAND SHOWN	6"	4"		●	●		●			●				●				●	●						●		#4		●			●	●	
ZQUT – 1206-1 STR OR L		LEFT HAND SHOWN	6"	4"	2"	●	●		●			●				●				●	●						●		#4		●			●	●	
ZQU – 1206-1 STD			4"	6"		●	●		●			●				●				●	●						●		#4		●			●	●	
ZQUT – 1206-1 STD			4"	6"	2"	●	●		●			●				●				●	●						●		#4		●			●	●	

NOTES:

1. NOS. 1203 & 1204 SERIES FOR NORMAL ROUGH CLOSETS & 1205, 1206 SERIES FOR PARAPLEGIC CLOSETS (P-1A).
2. WHERE VERTICAL CARRIERS ARE REQUIRED CONTRACTOR HAS THE OPTION TO USE 1204 OR 1206 SHD

URINALS (P-2)

SUPPORT TO BE ZURN Z-1122 CHAIR CARRIER WITH WEDGE LOCKING BLOCK TYPE FOOT SUPPORTS SECURELY BOLTED TO SLAB, UPPER SUPPORT PLATE AND LOWER BEARING PLATE, STEEL PIPE UPRIGHTS ADJUSTABLE SLEEVES AND ADJUSTABLE ALIGNMENT TRUSS

LAVATORIES (P-3)

SUPPORT TO BE ZURN ZU-1231 OR ZU 1233 CONCEALED ARM CHAIR CARRIER, SINGLE OR DOUBLE AS REQUIRED WITH WEDGE LOCKING BLOCK TYPE FOOT SUPPORTS SECURELY BOLTED TO SLAB, STEEL PIPE UPRIGHTS AND ADJUSTABLE ALIGNMENT TRUSS ARMS SHALL BE PROVIDED WITH LEVELING SCREWS AND LOCKING DEVICE AND SHALL BE DESIGNED TO RECEIVE CHROME PLATED CAST BRASS 1-1/2 EXPOSED ESCUTCHEONS.

SERVICE SINK (P-6)

SUPPORT ON ZS-1229 CHAIR CARRIER WITH HANGER PLATES, VITREOUS ENAMEL BRACKETS & BLOCK TYPE FEET.

NO.	DATE	SUB. NO.	BY
5	2-17-71	SG-138	SS
4	3-14-69	SG-10	B.V.
3	1-20-69	SG-6	W.R.
2	9-17-68	SG-2	J.C.
1	7-10-68		J.C.

REVISIONS

APPROVED

CHIEF, PLANNING DIVISION

DATE

THE WORLD TRADE CENTER
THE PORT OF NEW YORK AUTHORITY

MINORU YAMASAKI & ASSOCIATES, ARCHITECTS – EMERY ROTH & SONS, ARCHITECTS
MINORU YAMASAKI, ARCHITECT – RICHARD ROTH, ARCHITECT

WORTHINGTON, SKILLING, HELLE & JACKSON, STRUCTURAL ENGINEERS – JAROS, BAUM & BOLLES, MECHANICAL ENGINEERS
JOSEPH R. LORING & ASSOCIATES, ELECTRICAL ENGINEERS – THE PORT OF NEW YORK AUTHORITY, PAVING, UTILITIES, FOUNDATIONS

TITLE: EQUIPMENT SCHEDULE NO. -1

DRAWN	P.J.T	CHECKED	F.A.S.
SCALE	NONE	DATE	5-15-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-X-26		

KEY OF SYMBOLS

RISER	SERVICE	SYM. SYMBOL	LETTER
●	SOIL		S
●	WASTE		W
	ACID WASTE		AW
	INDIRECT WASTE		IW
●	LEADER		L
●	VENT		V
	ACID VENT		AV
	VAPOR VENT		VV
●	BURIED PIPING, W/SERVICE NOTED		
●	OVERHEAD PIPING W/SERVICE NOTED		
●	EJECTOR DISCHARGE		EJD
●	SUMP DISCHARGE		SD
●	COLD WATER (STRAIGHT PRESSURE)		CW.
	COLD WATER (TANK ZONE-1)		CWT1
	COLD WATER (TANK ZONE-2)		CWT2
	COLD WATER (TANK ZONE-3)		CWT3
	COLD WATER (PNEUMATIC TANK)		CWPT
	HOT WATER (TANK ZONE-1)		HWT1
	HOT WATER (TANK ZONE-2)		HWT2
●	HOT WATER (STREET PRESSURE)		HW
	HOT WATER (PNEUMATIC TANK)		HWPT
●	HOT WATER CIRCULATION (STREET PRESS.)		HWC
	HOT WATER CIRCULATION (TANK ZONE-1)		HWCT1
	HOT WATER CIRCULATION (TANK ZONE-2)		HWCT2
	HOT WATER CIRC. (PNEUMATIC TANK)		HWCPT
●	SOFT COLD WATER DISCHARGE		SD
	CHILLED DRINKING WATER		D
	CHILLED DRINKING WATER CIRCULATION		DC
	DISTILLED WATER		DW
	DEIONIZED WATER		DIW
	SOFTENED COLD WATER		SCW
	SOFTENED HOT WATER		SHW
	180° HOT WATER	180°	180°HW
	180° HOT WATER CIRCULATION	180°	180°HWC

RISER	SERVICE	SYM. SYMBOL	LETTER
	PUMP DISCHARGE		PD
●	FIRE STANDPIPE		FSP
●	SPRINKLER PIPING		SP
	VACUUM CLEANING		VC
	GAS PIPING		G
	COMPRESSED AIR PIPING		A
	VACUUM PIPING		V
	NITROGEN PIPING		N
	NITROUS OXIDE PIPING		NO
	OXYGEN PIPING		O
	HYDROGEN PIPING		H
●	TEMP. DRY FIRE STANDPIPE	TDFSP	DFSP

VALVES

●	CHECK VALVE		CV
●	HAND VALVE ON HORIZONTAL		
●	VALVE ON VERTICAL		
●	O.S.&Y. VALVE		
●	SOLENOID VALVE		SV
●	PRESSURE RELIEF VALVE		RV
●	PRESSURE REDUCING VALVE (PLAN)		PRV
●	DIAPHRAGM VALVE		DV
	3-WAY DIAPHRAGM VALVE		
	3-WAY HAND VALVE		
●	VACUUM BREAKER		VB
●	AIR VENT VALVE		AVV

FITTINGS

●	SINGLE C.O. RUNNING TRAP		
●	DOUBLE C.O. RUNNING TRAP		
●	TRAP W/C.O. BRANCH TO COORD.		
●	CLEANOUT DECK PLATE		CODP
●	AUTO BALL DRIP		ABD
●	FIRE HOSE RACK		HR
●	FIRE HOSE CABINET		HC
●	HOSE GIBS		H.G.
●	WALL HYDRANT		W.H.
●	BOX HYDRANT		B.H.
●	THERMOMETER WELLS		

WATER HAMMER ARRESTORS ALTERNATE TO AIR CHAMBERS

BRANCH SIZE	SIOUX-TROL No.*	MAX. PRESSURE	MAX. LENGTH OF BRANCH RUN
¾"	100	90	25'
1"	100	90	25'
1¼"	300	80	25'
2"	400	80	25'
2½"	600	90	25'

* ZURN INDUSTRIES INC.

NOTE: LOCATE ARRESTORS AT TOP OF THE BRANCH PRIOR TO FIXTURES AS INDICATED ON ¼" SCALE DETAILS.

FIXTURE CONNECTION SCHEDULE

FIXTURES		DFU	FIXTURE UNITS			WASTE	VENT	CW	HW	TRAP	REMARKS
RATED CLOSETS			PU	PRIVATE							
WALL HUNG	FLUSH VALVE	●	●			4"	2"	¾"		12"	
WALL HUNG	FLUSH VALVE	●		●		4"	2"	¾"		12"	HANDICAPPED
FLOOR MOUNTING	FLUSH VALVE					4"	2"	¾"		12"	
FLOOR MOUNTING	FLUSH TANK					4"	2"	½"		12"	
URINALS			PU	PUBLIC							
	WASH OUT	●	●			2"	1½"	¾"		2"	
	BLOW OUT					3"	1½"	1"		2"	
	FLUSH OUTLET					2"	1½"	¾"			
LAVATORIES			PU	PUBLIC							
		●	●			1¼"	1½"	½"	½"	1½"	
		●	●			1¼"	1½"	½"	½"	1½"	
SLOP SINKS			PU	PUBLIC							
	WALL HUNG	●		●		3"	1½"	½"	½"		
	FLOOR MOUNTED					3"	1½"	½"	½"		
	CAST STONE	●	●			3"	1½"	½"	½"		
SHOWERS			PU	PUBLIC							
		●	●			2"	1½"	½"	½"	2"	
DRINKING FOUNTAIN		●	1/2			1¼"	1½"	½"			
DENTAL UNIT, CUSPIDOR				PUBLIC							
DENTAL LAB. UNIT				PUBLIC							
SERVICE SINK		●	PUBLIC			3"	1½"	½"	½"	3"	
BATH TUBS			PU	PRIVATE	PUBLIC						
						1½"	1½"	½"	½"	2"	
JANITOR			PU	PRIVATE	PUBLIC						
	KITCHEN					2"	1½"	½"	½"	2"	
	LABORATORY					2"	1½"	½"	½"	2"	

* ½ C.W. TO W.C. FLUSH VALVE ** ABOVE FIXTURE

SEE DETAILS ON P-2E-21

GENERAL NOTES:

1- FOR PLUMBING & SPRINKLER DWG'S NO'S. & TITLES SEE ARCH. DWG. A-VC-2

2- WHERE PLANE PARTITION PENETRATIONS ARE REQUIRED BECAUSE OF PIPING, PROVIDE 18 GAUGE STEEL SHEET, FULL SIZE OF GYPSUM WALL CLOSURE SHEET AS INDICATED ON ARCH. DWG.

3- PIPING SHOWN DOUBLE LINE IS TENTATIVE & CONTRACTOR SHALL NOT INSTALL UNTIL AUTHORIZED BY THE ENG. / AUTH.

4- PIPING INDICATED AS BEING IN THE EXISTING TUBE REMOVAL AREA (SHADED AREA ON DWGS.) SHALL NOT BE INSTALLED UNTIL TUBES ARE REMOVED & SLAB IS POURED.

PUMPS

	DESIGNATION	No. REQUIRED	G.P.M.	MAX. T.D.H.	MIN. T.D.H.	MECH. SEAL	MODEL	STAGES	VERT. SPLIT	HORIZ. SPLIT	WORKING PRESS	H.P.	R.P.M.	VOLTS	PHASE	CYCLE	MANUAL CONT'L	STARTING STEPS	AUTO. CONT'L	PILOT LIGHT	PRESSURE	GUAGE RANGE	METAL BASIN	CONCRETE PIT
**	SUMP PUMP ELEV. PIT	1	20	23	A		SS-805-RJT					⅓	1750	120	1	60			●	●				●
*	SUMP PUMP No. 1	3	350	94	84		6-CHKU-4-FC					20	1750	460	3	60			●	●				●
*	2	3	350	94	84		6-CHKU-4-FC					20	1750	460	3	60			●	●				●
*	3	3	350	90	80		6-CHKU-4-FC					20	1750	460	3	60			●	●				●
*	4	3	350	90	80		6-CHKU-4-FC					20	1750	460	3	60			●	●				●
*	EJECTOR PUMP No. 1	2	350	102	84		6-CSBMU-4-FC L-C-6588					20	1750	460	3	60			●	●				●
*	2	2	350	110	86		6-CSBMU-3-FC L-C-6588					20	1750	460	3	60			●	●				●
*	3	2	350	105	85		6-CSBMU-4-FC L-C-6588					20	1750	460	3	60			●	●				●
*	4	2	350	110	86		6-CSBMU-4-FC L-C-6588					20	1750	460	6	60			●	●				●
*	5	2	350	105	85		6-CSBMU-4-FC L-C-6588					20	1750	460	3	60			●	●				●
*	6	2	350	98	83		6-CSBMU-4-FC L-C-6588					20	1750	460	3	60			●	●				●
	H.W. CIRC. * *	1	10	6			100					1/12		115	1	60								
*	SUMP PUMP No. 5	5	450	94	84		6-CSBMU-4-FC					25	1750	460	3	60			●	●				●
A																								

* WEIL PUMP Co. ** BELL & GOSSETT Co.

H.W. HEATER ** (1 REQ'D - LOCATED IN JANITOR'S CLOSET NORTH AREA PLATFORM 'C' EL. 250'-0")

PROVIDE (1) 1500 - 6 KW TOTAL OF (6KW) ELECTRIC WATER HTR. - COPPER, SILICON .480 V. 3 PHASE, 60 CY. A.C. AS MANUFACTURED BY RUSSELL (THE) ELECTRIC WATER CO. STRATFORD, CONN.) OR EQUAL.

** WEIL PUMP CO.- PROVIDE ONE SUMP PUMP IN EACH ELEV. PIT WHERE INDICATED ON PLUMBING DWG'S.

MATERIAL SCHEDULE

SYSTEMS	PIPE: REQUIRED	C.I.	STL. SCHED. 40	STL. SCHED. 80	BLACK	GALVANIZED	C.T.	R.P.P.	C.I. W.P.	D.I.S.P. (CLASS I)	D.I.S.P. (MECH. JOINT)	TAR COATED	FITTINGS: C.I. SOIL	C.I. DRAINAGE	STD. C.I. - 175# W.W.P.	E.H.C.I. - 400# W.W.P.	STD. C.I. FLG. - 175# W.W.P.	STD. WALL - 300# W.W.P.	TAR COATED	CAST BRONZE - 175# SCREWED THREADED, 250# W.W.P.	CAST IRON - 250# SCREWED MECH. JOINT DUCTILE IRON - 1000 C.W.P.	CLASS 2 (MECH. JOINT)	CLASS D 4#	CLASS I (MECH. JOINT)	BLACK	GALVANIZED	JOINTS: CAULKED	THREADED	SOLDERED	WELDED	BRAZED	MECH. JOINT
DRAINAGE (BURIED)	●	●										●	●						●												
VENTS (BURIED)	●	●										●	●						●												
HOUSE DRAINS FROM TOWERS-UP TO 10'-0" OF HOUSE TRAP	●		●			●								●												●		●		
* HOUSE DRAINS EXCEPT FROM TOWERS	●	●	●			●							●	●												●	●	●		
* SANITARY & WASTE STACKS	●	●	●			●							●	●												●	●	●		
* SANITARY & WASTE BRANCHES	●	●	●			●							●	●												●	●	●		
* LEADERS (EL 155' & BELOW)	●	●	●			●							●	●												●	●	●		
STORM HOUSE SEWERS	●								●															●						●
* VENTS	●	●	●			●							●		△			●	△							●	●	●		
C.W. 3½" & SMALLER	●							●													●								●	
C.W. 4" & LARGER	●							●													●								●	
DRINKING WATER																														
** C.W. BY [illegible] G METER ROOMS (90' OUTSIDE SLURRY WALL TO FLANGE INSIDE ROOMS)	●							●																●					●	
H.W.	●							●													●								●	
BURIED C.W.																														
FIRE STANDPIPE	●			●																		●		●		●				
COMBINED HOUSE SEWERS (IN UTILITY RACK)	●								●																					●
COMPRESSED AIR																														
SOAP SYSTEM																														
SUMP & EJECTOR DISCH. (BURIED)	●									●																				
SUMP & EJECTOR DISCH. (NOT BURIED)	●		●			●								●												●				
*** RIVER WATER DRAINAGE (REFRIGERATION PLANT) △	●								●															●						●

* CONTRACTOR'S OPTION TO USE EITHER C.I. OR STEEL PIPING SYSTEM.

** CONTRACTOR'S OPTION

*** CEMENT LINED DUCTILE IRON SEWER PIPE

△ [illegible]

NO.	DATE	DRAWING NO.	BY
6	12-19-88	56-16	TJ
5	6-5-87	56-15	JC
4	3-19-87	56-10	JC
3	1-30-84	30-6	JC
2	7-12-83	56-2	JC
1	7-1-82		JC

REVISIONS

APPROVED

CHIEF, PLANNING DIVISION

DATE

THE WORLD TRADE CENTER

THE PORT OF NEW YORK AUTHORITY

MINORU YAMASAKI & ASSOCIATES — MINORU YAMASAKI, ARCHITECT

EMERY ROTH & SONS — RICHARD ROTH, ARCHITECT

WORTHINGTON, SKILLING, HELLE & JACKSON — STRUCTURAL ENGINEERS

JAROS, BAUM & BOLLES — MECHANICAL ENGINEERS

JOSEPH R. LORING & ASSOCIATES — ELECTRICAL ENGINEERS

THE PORT OF NEW YORK AUTHORITY — PAVING, UTILITIES, FOUNDATIONS

TITLE: EQUIPMENT SCHEDULE NO-2

DRAWN: PJT CHECKED: FAS.

SCALE: NONE DATE: 5-15-80

PROJECT NO. SHEET NO.

P-X-27

W 10400.00 | W 10300.00 | W 10200.00 | W 10100.00 | W 10000.00 | W 9900.00 | W 9800.00

N 5200 | N 5100 | N 5000 | N 4900 | N 4800 | N 4700

N 5275.00 W 10191.68 | N 5208.21 W 10018.87 | N 5200.00 W 9838.90 | N 5060.80 W 9838.00 | N 4821.50 W 9783.00 | N 4826.00 W 10280.00 | N 4135.00

N 5094.40 W 10275.80 | N 5041.87 W 10335.84 | N 5088.56 W 10081.81 | N 5014.16 W 10375.59 | N 4981.90 W 10431.90 | N 4985.22 W 10438.96 | N 4951.07 W 10467.56 | N 4952.06 W 10437.40 | N 4998.91 W 10413.62 | N 4994.28 W 10384.27 | N 4932.45 W 10421.56

See Detail 1, Dwg. R-77 (WTC-130.002) for connection to C.I. Pipe at Retaining Wall (Typ.)

EJECTOR No. 1 | EJECTOR No. 2 | EJECTOR No. 3

SUMP PIT #1 | SUMP PIT #2 | SUMP PIT #3

EXIST. PATH TUBE

TOWER "A"

NOTE: FOR TRENCHES IN TOWER "A" SEE DWG R-72 & R-85 OF WTC-130.002

Inv El 239.75 | Inv El 242.00 | Inv El 239.83 | Inv El 247.50 | Inv El 247.42 | Inv El 242.16 | Inv El 239.37 | Inv El 239.38 | Inv El 239.64 | Inv El 239.65 | Inv El 239.72

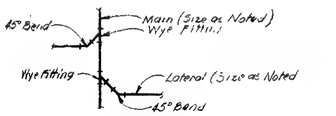
C.O.D.P. | PITCH | 6"X5. | 8"X5. | 10"X5. | 12"X5. | 16"X5.

Track No. 1 | Track No. 2 | Track No. 3 | Track No. 4

E Column 436 | E Column 433

NOTE:

1. ALL PIPES IN TRACK AREA SHALL BE EXTRA STRENGTH POROUS CONCRETE PIPE.
2. ALL MAINS 10 & 12" SHALL PITCH @ 1/8"/1.0'-0"
3. ALL 6" LATERALS IN THE PLAZA AREA SHALL BE RUN FLAT WITH A INV ELEV 239.83 UNLESS OTHERWISE NOTED.
4. ALL 6" LATERALS IN THE TRACK AREA SHALL BE RUN FLAT WITH A INVERT EL. 242.00 UNLESS OTHERWISE NOTED.
5. BACKFILL FOR ALL 10" OR 12" MAINS SHALL BE TYPE 1 FILTER.
6. FOR TRENCH LOCATIONS SEE DWG R-30 THRU R-74 OF WTC 130.002



TYPICAL LATERAL & MAIN CONNECTION
Not to Scale

MATCH LINE N 4135.00

REV. NO.	CHIEF ENGINEER
2	
3	

NO	DATE	BY	DESCRIPTION	CHIEF STR. ENGINEER
2	6/16/69	J.S.	Revised Porous Pipe Layout to Conform to Trenches as Shown in Dwg. R-60 of WTC-130.002	
3	7/25/69	J.S.	Added Porous Pipes under Corner Diaphragm	

1 9 6 8 | J.P.

NO DATE SUB. NO. BY — REVISIONS | NO DATE SUB. NO. BY — REVISIONS

CHIEF STRUCTURAL ENGINEER

APPROVED

CHIEF, PLANNING DIVISION

DATE

THE WORLD TRADE CENTER

THE PORT OF NEW YORK AUTHORITY

MINORU YAMASAKI & ASSOCIATES — MINORU YAMASAKI, ARCHITECT
EMERY ROTH & SONS — RICHARD ROTH, ARCHITECT
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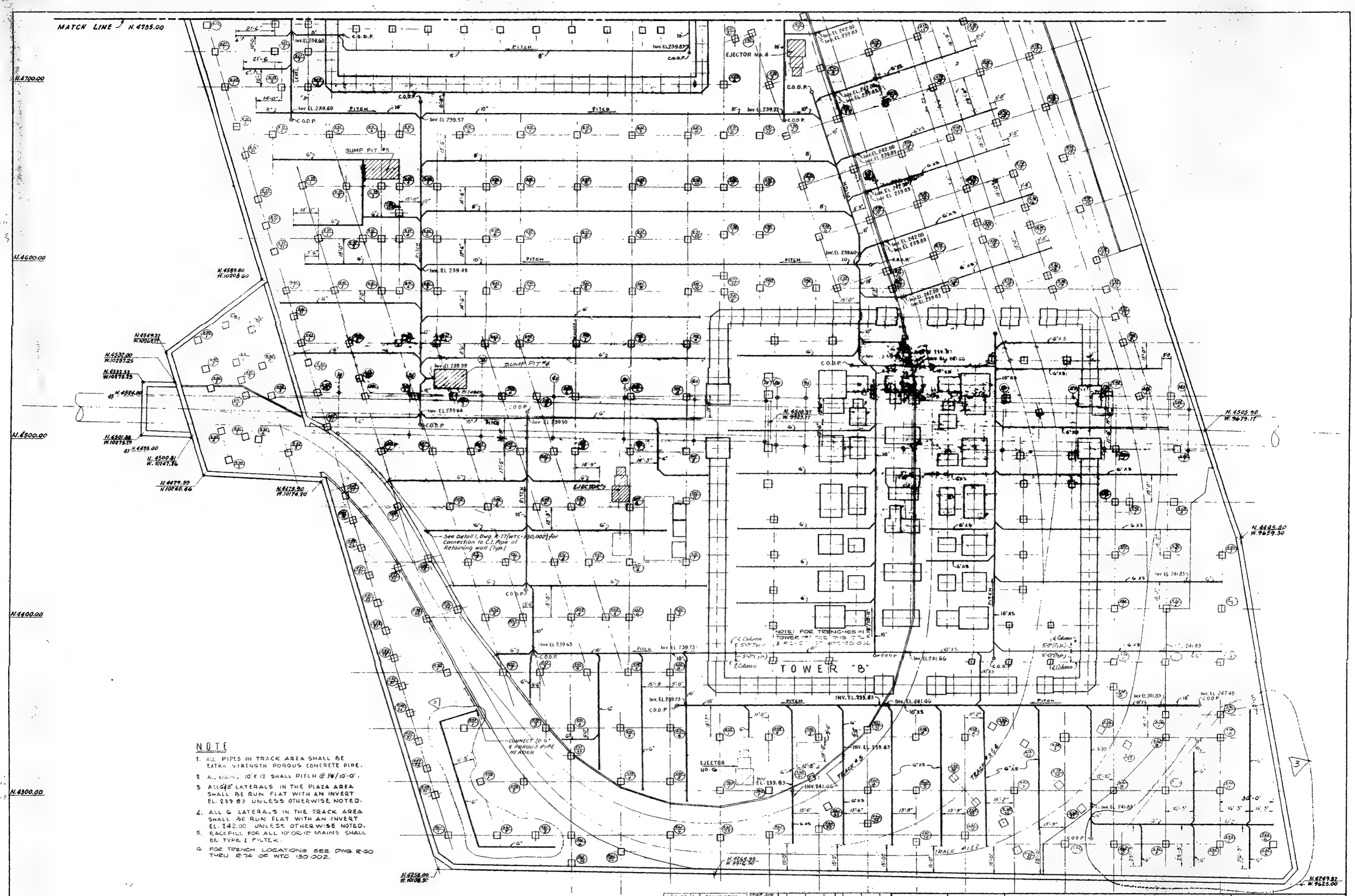
JAROS, BAUM & BOLLES — MECHANICAL ENGINEERS
JOSEPH R. LORING & ASSOCIATES — ELECTRICAL ENGINEERS
THE PORT OF NEW YORK AUTHORITY — CIVIL, UTILITIES, FOUNDATIONS

TITLE: SUB GRADE PLAN - ZONE J
SUB - DRAINAGE PLAN

DRAWN	CHECKED
SCALE	1/16" = 1'-0"
TE	May 15, 68
PROJECT NUMBER	SHEET OF
DRAWING NUMBER	PX-50



NOTE

1. ALL PIPES IN TRACK AREA SHALL BE EXTRA STRENGTH POROUS CONCRETE PIPE.
2. ALL MAINS 10" & 12" SHALL PITCH @ 1/8" / 10'-0".
3. ALL 6" LATERALS IN THE PLAZA AREA SHALL BE RUN FLAT WITH AN INVERT EL. 239.83 UNLESS OTHERWISE NOTED.
4. ALL 6" LATERALS IN THE TRACK AREA SHALL BE RUN FLAT WITH AN INVERT EL. 242.00 UNLESS OTHERWISE NOTED.
5. BACKFILL FOR ALL 10" OR 12" MAINS SHALL BE TYPE I FILTER.
6. FOR TRENCH LOCATIONS SEE DWG. R-60 THRU R-74 OF WTC 130.002.

REV. NO.	CHIEF ENGINEER
2	
3	

NO.	DATE	BY	DESCRIPTION	CHIEF SITE ENGINEER
2	4/16/69	I.S.	REVISED POROUS PIPE LAYOUT TO CONFORM TO TRENCHES AS SHOWN IN CONT. C-60 TO R-74 OF WTC-130.002	
3	7/25/69	I.S.	ADDED POROUS PIPES UNDER CORNERS DIAPHRAM	

REVISIONS

CHIEF ENGINEER

APPROVED

CHIEF, PLANNING DIVISION

DATE

THE WORLD TRADE CENTER

THE PORT OF NEW YORK AUTHORITY

MINORU YAMASAKI & ASSOCIATES — MINORU YAMASAKI, ARCHITECT
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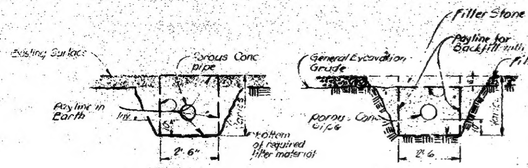
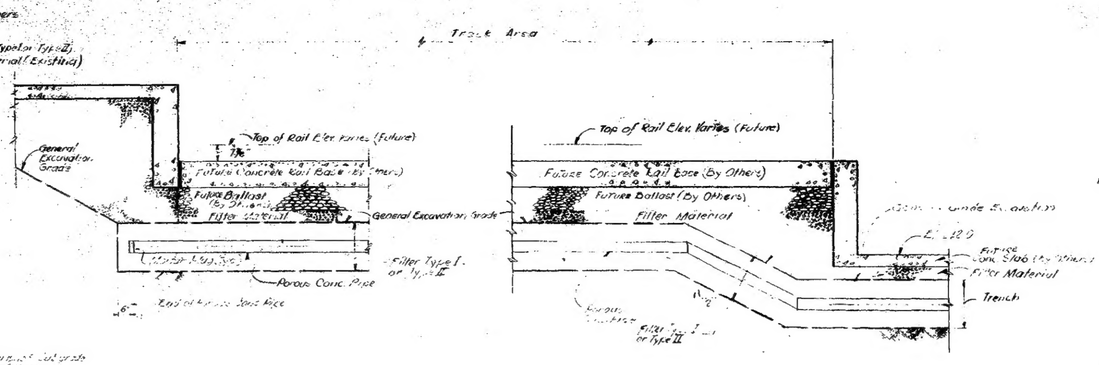
JAROS, BAUM & BOLLES — MECHANICAL ENGINEERS
JOSEPH R. LORING & ASSOCIATES — ELECTRICAL ENGINEERS
THE PORT OF NEW YORK AUTHORITY — PATENO, UTILITIES, FOUNDATIONS

TITLE: SUB GRADE PLAN - ZONE K
SUB - DRAINAGE PLAN

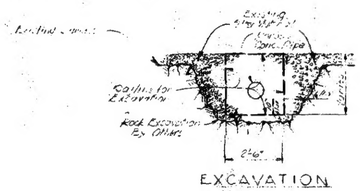
DRAWN	C.N.L.	CHECKED	
SCALE	1/16" = 1'-0"	DATE	May 15, 68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	PX-51		

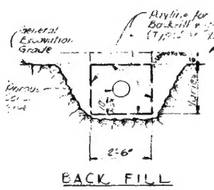


DRAINAGE TRENCH IN EARTH



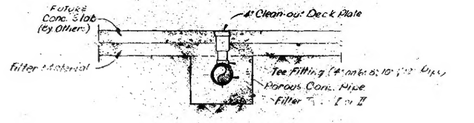
TYPICAL CROSS-SECTION THROUGH TRACK AND PLATFORM AREA



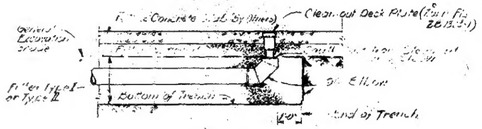


DRAINAGE TRENCH IN ROCK

NOTE:
FILTER SHALL BE TYPE I OR TYPE II (SEE SPECIFICATIONS) AS DETERMINED BY THE ENGINEER IN THE FIELD.

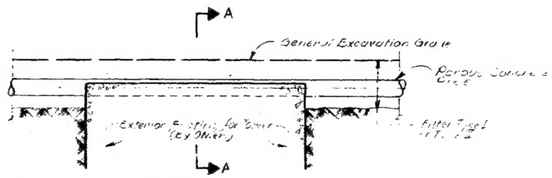


TYPICAL CLEAN-OUT CONNECTION
SCALE 3/4"=1'0"

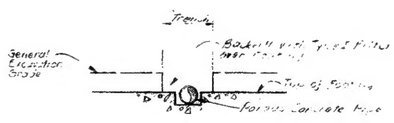


TYPICAL END OF PIPE
CLEAN-OUT CONNECTION
SCALE 3/4"=1'0"

TYPICAL DETAIL OF POROUS CONCRETE PIPE OVER EXTERIOR TOWER FOOTING



DETAIL OF POROUS CONCRETE PIPE OVER EXTERIOR TOWER FOOTING



SECTION A-A

NOTE:
1. FOR GENERAL EXCAVATION GRADES SEE CONTRACT WTC-180.002, DRAWINGS No. A-60 THRU A-71 INCLUSIVE.
2. FOR TRENCH LOCATIONS SEE DWGS E-60 THRU E-74 OF WTC-180.002.

NO.	DATE	BY	DESCRIPTION
2			
1	7-8-68	SD	REVISED POROUS PIPE LAYOUT TO CONFORM TO OUTLINES AS SHOWN ON DWG. A-68 TO A-71 OF WTC-180.002

CHIEF ENGINEER

CHIEF STR. ENGINEER

APPROVED

CHIEF, PLANNING DIVISION

DATE

REVISIONS

REVISIONS

THE WORLD TRADE CENTER
THE PORT OF NEW YORK AUTHORITY

MINORU YAMASAKI & ASSOCIATES
MINORU YAMASAKI, ARCHITECT

EMERY ROTH & SONS
RICHARD ROTH, ARCHITECT

WORTHINGTON, SKILLING, MELLE & JACKSON
STRUCTURAL ENGINEERS

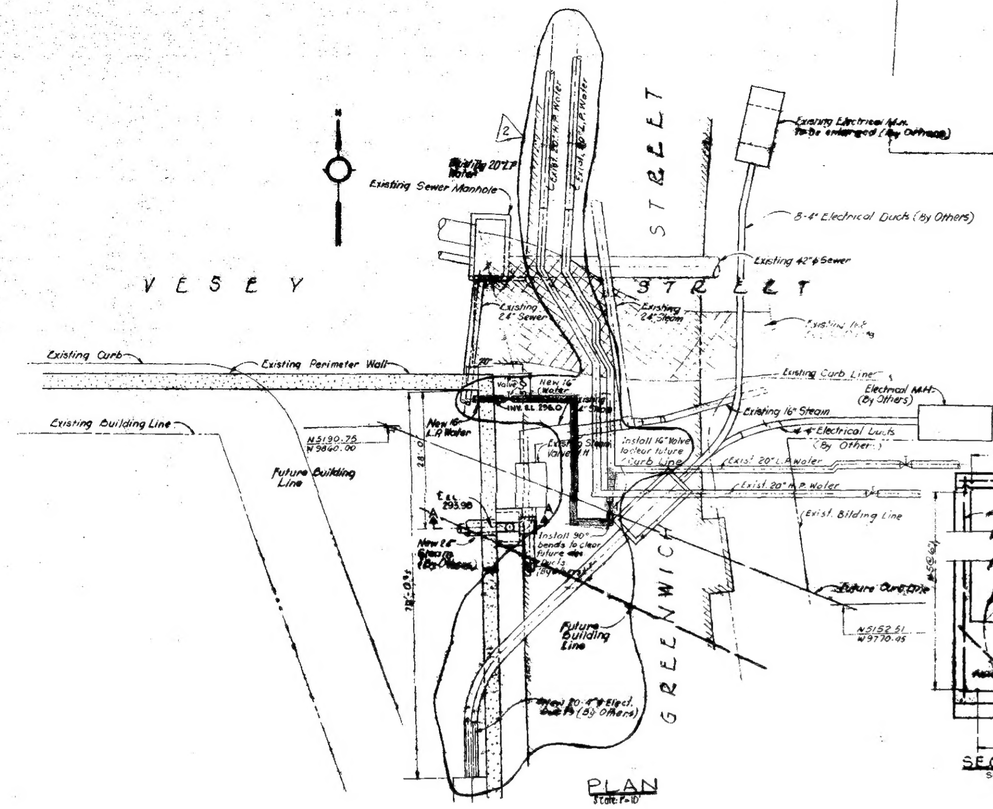
JAROS, BAUM & BOLLES
MECHANICAL ENGINEERS

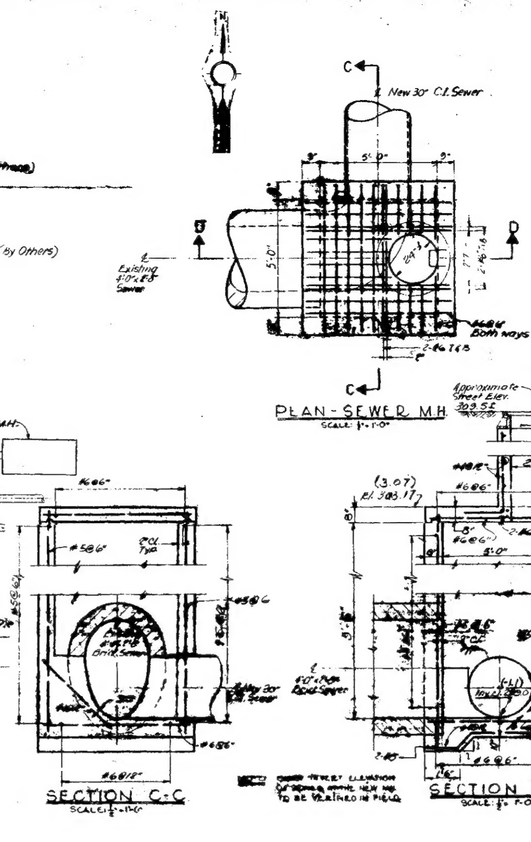
JOSEPH R. LORING & ASSOCIATES
ELECTRICAL ENGINEERS

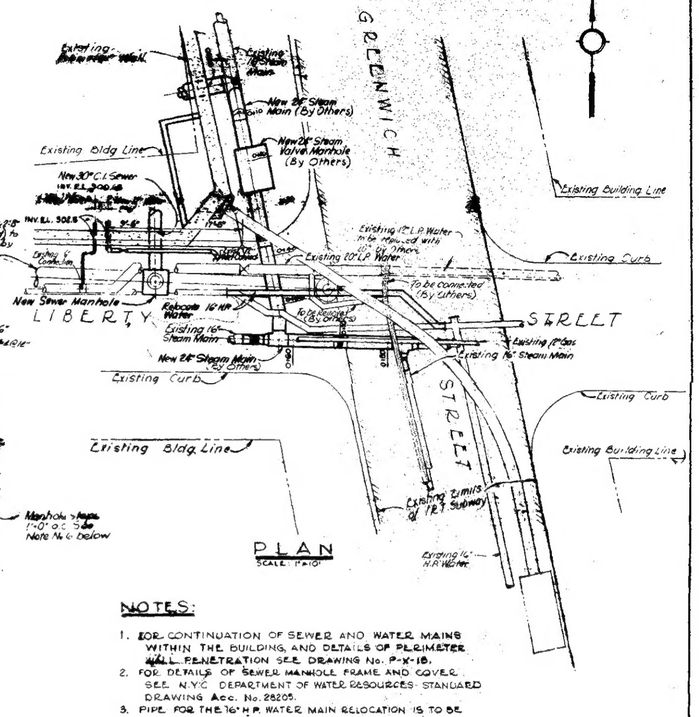
THE PORT OF NEW YORK AUTHORITY
PAYING, UTILITIES, FOUNDATIONS

TITLE: SUB-GRADE PLAN
SUB-DRAINAGE DETAILS

DRAWN	E.M.F.	CHECKED	
SCALE	1/4"=1'0"	DATE	1-4-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	PX-52		







NOTES:

1. FOR CONTINUATION OF SEWER AND WATER MAINS WITHIN THE BUILDING, AND DETAILS OF PERIMETER WALL PENETRATION SEE DRAWING No. P-X-18.
2. FOR DETAILS OF SEWER MANHOLE FRAME AND COVER SEE N.Y.C. DEPARTMENT OF WATER RESOURCES STANDARD DRAWING Acc. No. 28205.
3. PIPE FOR THE 16" M.P. WATER MAIN RELOCATION IS TO BE SALVAGED FROM EXISTING MAIN.
4. ALL CAST-IN-PLACE CONCRETE IS TO BE CLASS "D".
5. CUT OR DAMAGED EXISTING PAVEMENT SHALL BE PATCHED USING "SHELL-CO-MIX" COLD ASPHALT CONCRETE OR EQUAL; APPLIED AND COMPACTED IN NOT MORE THAN TWO INCH THICK COURSES TO A TOTAL THICKNESS OF NOT LESS THAN SIX INCHES. ALLOW TWENTY-FOUR HOURS BETWEEN COURSES.
6. FOR DETAILS OF WROUGHT IRON MANHOLE STEPS SEE N.Y.C. DEPARTMENT OF WATER RESOURCES STANDARD DRAWING No. Acc No. 28721.
7. ELEVATIONS SHOWN ( ) REFER TO MANHATTAN DATUM WHICH IS 2.75' ABOVE MEAN SEA LEVEL AT SANDY HOOK, NEW JERSEY.

REV. No.	CHIEF ENGINEER
1	
2	

CHIEF ENGINEER

NO.	DATE	REVISIONS	BY
1	3/16/70	In Service T.S.	
2	3/14/80	Min Rqd Wtr.	

CHIEF, PLANNING DIVISION
DATE

THE WORLD TRADE CENTER
THE PORT OF NEW YORK AUTHORITY

MINORU YAMASAKI & ASSOCIATES
MINORU YAMASAKI, ARCHITECT

EMERY ROTH & SONS
RICHARD ROTH, ARCHITECT

WORTHINGTON, SKILLING, HELLE & JACKSON
STRUCTURAL ENGINEERS

JAROS, BAUM & BOLLES
MECHANICAL ENGINEERS

JOSEPH R. LORING & ASSOCIATES
ELECTRICAL ENGINEERS

THE PORT OF NEW YORK AUTHORITY
PAVING, UTILITIES, FOUNDATIONS

TITLE: OUTSIDE UTILITY CONNECTIONS
WATER AND SEWER

DRAWN	P.H.F.	CHECKED	
SCALE	As Shown	DATE	MAY 15, 1980
PROJECT NUMBER	WTC-501.00	SHEET	OF
DRAWING NUMBER	P-X-50		

THE WORLD TRADE CENTER

THE PORT OF NEW YORK AUTHORITY

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RICHARD ROTH, ARCHITECT

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JAROS, BAUM & BOLLES
MECHANICAL ENGINEERS

JOSEPH R. LORING & ASSOCIATES
ELECTRICAL ENGINEERS

THE PORT OF NEW YORK AUTHORITY
PAVING, UTILITIES, FOUNDATIONS

TITLE: F.S.P. RISER DIAGRAM

DRAWN	F. A.	CHECKED	F. A. S.
SCALE	NO SCALE	DATE	3-4-68
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	P-X-5-6-68		

REVISIONS

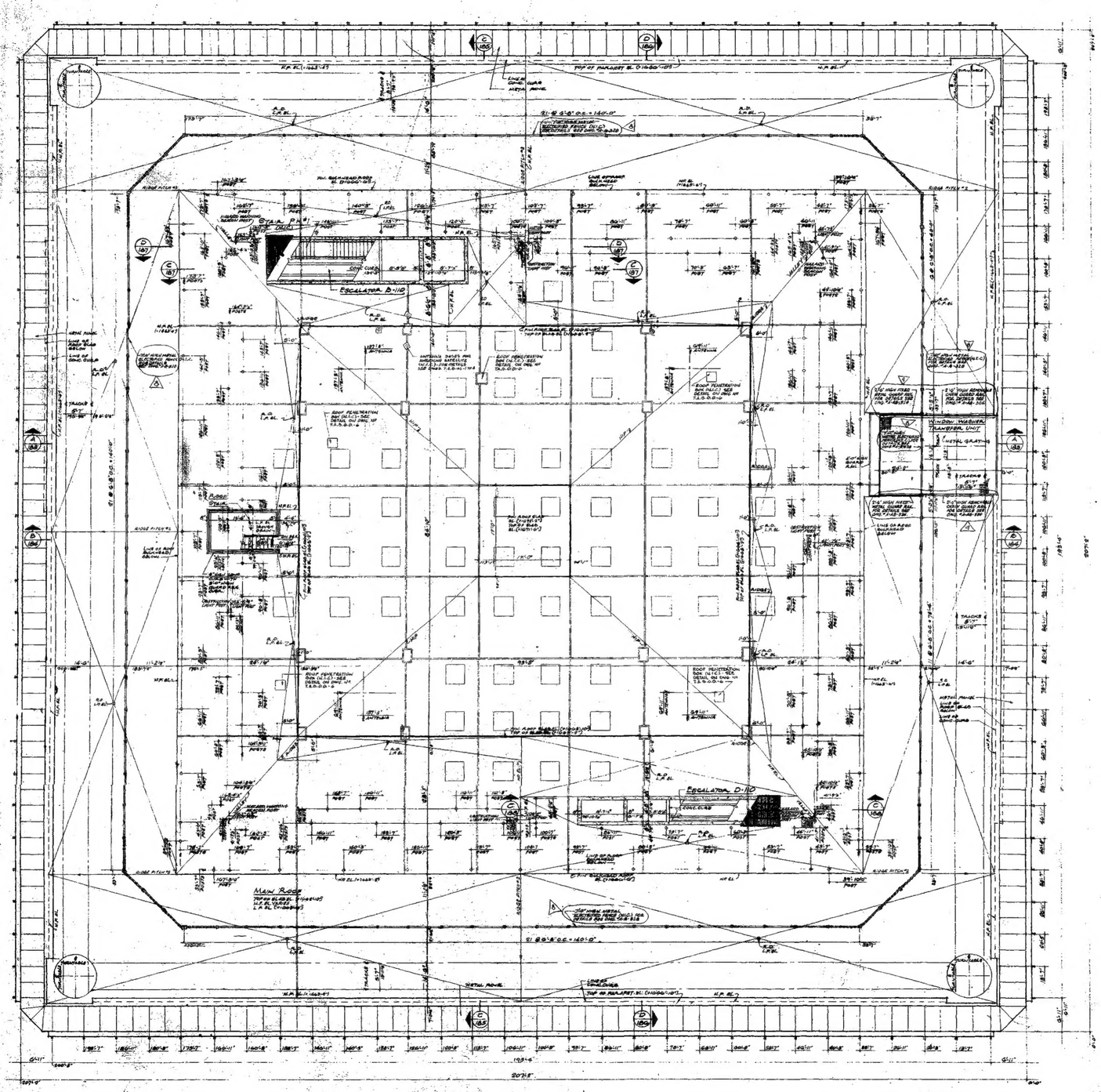
NO.	DATE	SUB. NO.	BY
1	6-7-74	SJC	

APPROVED

CHIEF, PLANNING DIVISION

DATE

FILE AT END OF SUB GRADE PLUMBING



NORTH

NOTES:

1. FOR GENERAL NOTES, SEE "0" TO MATERIALS, SYMBOLS, ABBREVIATIONS PLUMBING SCHEDULES, LEGEND, SEQUENCE AND SEQUENCE OF DRAWINGS
2. SEE DRAWINGS A-0-1 TO A-0-10
3. ALL ELEVATIONS SHOWN THUS (0'-0") ARE IN RELATION TO DATUM OF BUILDING
4. FOR MECHANICAL AND ELECTRICAL LAYOUTS SEE ARCHITECTS BUILDERS DRAWINGS
5. ALL ELEVATIONS WHEN THUS (0'-0") ARE GIVEN IN RELATION TO BUILDING DATUM

1/8"=1'-0" 0 4 8 16 24"

CONTRACT 815 DRAWING date

BULLETINS, NOT DATED ARE IN THE PROCESS OF COMPLETION

NO.	DATE	BULL. NO.	BY
1	5-30-74	B-268	LJ.
2		B-286	LJ.
3	7-10-74	B-346	DS.
4	8-9-73	B-387	LJ.
5	8-9-74	B-387	DS.
6	10-25-72	B-138	DS.
7	10-25-72	B-196	DS.
8	9-7-74	B-465	LC.
9	1-23-71	B-137	LJ.

REVISIONS

APPROVED

CHIEF, PLANNING DIVISION

DATE

THE WORLD TRADE CENTER

THE PORT OF NEW YORK AUTHORITY

MINORU YAMASAKI & ASSOCIATES — EMERY ROTH & SONS
MINORU YAMASAKI, ARCHITECT — RICHARD ROTH, ARCHITECT

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — JAROS, BAUM & BOLLES
STRUCTURAL ENGINEERS — MECHANICAL ENGINEERS

JOSEPH R. LORING & ASSOCIATES — THE PORT OF NEW YORK AUTHORITY
ELECTRICAL ENGINEERS — PAVING UTILITIES, FOUNDATIONS

TITLE: INTERMEDIATE BULKHEAD & ROOF DRAINAGE PLAN

DRAWN		CHECKED	
SCALE	1/8"=1'-0"	DATE	NOV-10-75
PROJECT NUMBER		SHEET	OF
DRAWING NUMBER	A·B·W A		

TOWER B | Plumbing | Bulkhead & Roof